Considered 11/14/03 MEC

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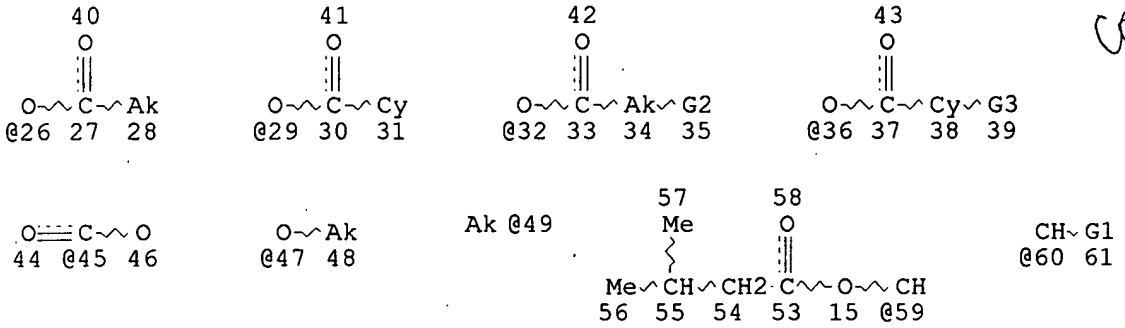
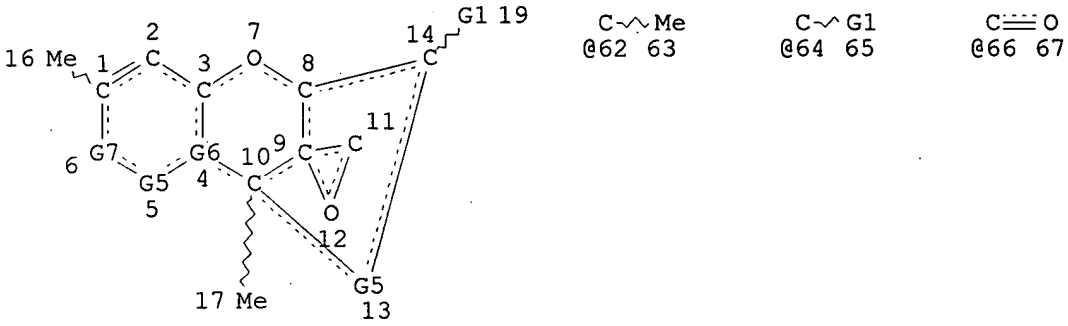
L42 STR





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VAR G5=CH2/60
VAR G6=62/64
VAR G7=66/59
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GGCAT IS UNS AT 31
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GGCAT IS LOC AT 48
GGCAT IS LOC AT 49
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 57

STEREO ATTRIBUTES: NONE
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L45 9 SEA FILE=HCAPLUS ABB=ON PLU=ON L44

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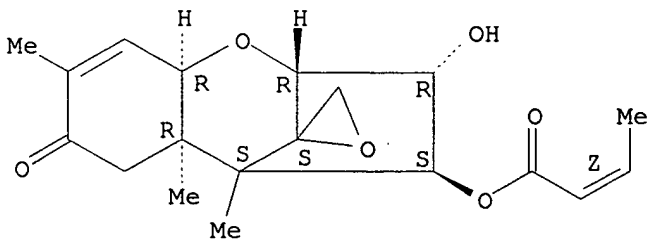
L45 ANSWER 1 OF 9 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2003:393697 HCAPLUS
DOCUMENT NUMBER: 139:270470
TITLE: Cancer preventive potential of trichothecenes from Trichothecium roseum
AUTHOR(S): Konishi, Kazuhide; Iida, Akira; Kaneko, Masafumi; Tomioka, Kiyoshi; Tokuda, Harukuni; Nishino, Hoyoku; Kumeda, Yuko
CORPORATE SOURCE: Graduate School of Pharmaceutical Sciences, Kyoto University, Sakyo-ku, Kyoto, 606-8501, Japan
SOURCE: Bioorganic & Medicinal Chemistry (2003), 11(12), 2511-2518
CODEN: BMECEP; ISSN: 0968-0896
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Bioassay-guided sepn. of exts. from the culture broth and mycelium of the fungus Trichothecium roseum, aiming at the discovery for cancer preventive agents, resulted in the isolation of three new trichothecene sesquiterpenes, trichothecinols A-C (1-3) together with three known analogs, trichothecin (4), trichodermol (5) and trichothecolone (6). Compds. 1-6 exhibited remarkably potent inhibition against Epstein-Barr virus early antigen (EBV-EA) activation induced by the tumor promoter, 12-O-tetradecanoylphorbol-13-acetate (TPA). Further compd. 1 strongly inhibited TPA-induced tumor promotion on mouse skin initiated with 7,12-dimethylbenz[a]anthracene (DMBA) in two-stage carcinogenesis tests. These results suggest that compd. 1 (trichothecinol A) might be a valuable lead for further evaluation as a cancer preventive agent. In addn. to their cancer preventive activity, compd. 2 (trichothecinol B) was found to show modest antifungal activity against Cryptococcus albidus and Saccharomyces cerevisiae.

IT **185334-08-1P**, Trichothecinol A
RL: NPO (Natural product occurrence); PAC (Pharmacological activity); PRP (Properties); PUR (Purification or recovery); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); USES (Uses)
(cancer preventive potential of trichothecenes from Trichothecium roseum)

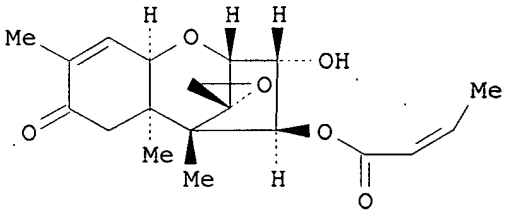
RN 185334-08-1 HCAPLUS
CN Trichothec-9-en-8-one, 12,13-epoxy-3-hydroxy-4-[[(2Z)-1-oxo-2-butenyl]oxy]-, (3.alpha.,4.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.

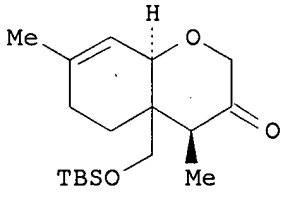


REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

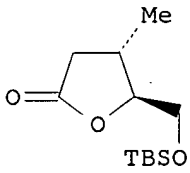
L45 ANSWER 2 OF 9 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:102040 HCAPLUS
DOCUMENT NUMBER: 134:353186
TITLE: Synthetic studies toward tumor promoting trichothecinols
AUTHOR(S): Iida, Akira; Konishi, Kazuhide; Tomioka, Kiyoshi; Tokuda, Harukuni; Nishino, Hoyoku
CORPORATE SOURCE: Graduate School of Pharmaceutical Sciences, Kyoto University, Japan
SOURCE: Tennen Yuki Kagobutsu Toronkai Koen Yoshishu (2000), 42nd, 757-762
CODEN: TYKYDS
PUBLISHER: Nippon Kagakkai
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
GI



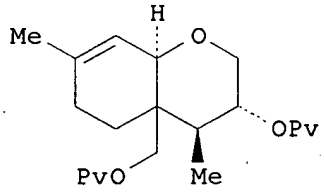
I



II



III



IV

AB Trichothecinol A (TA) is a potent tumor promoting trichothecene isolated from the fungus Trichothecium roseum. In order to clarify its property as a tumor promoter, the authors examd. biol. activities of TA (I). TA was neg. to protein kinase C activation. Furthermore, TA was also neg. to ornithine decarboxylase induction in mouse skin. Therefore. TA is classified as a non-TPA type tumor promoter that is close to thapsigargin. Further investigation showed that TA induces a morphol. change of the nucleus in the Raji cell and that TA causes no point mutation in a Ha-ras gene. An extensive structure-activity relationship study is required to understand the mode of action of TA as a tumor promoter. This allowed us to start synthetic studies toward trichothecenes in addn. to biochem. research on TA. Thus the authors synthesized the optically pure cis-AB ring (II), which is the known synthetic intermediate of calonectrin, a natural trichothecene that can be transformed into trichothecinols. The authors' synthetic approach to the cis-AB ring II originated with a chiral lactone (III) derived from D-mannnitol. The successful scheme involved

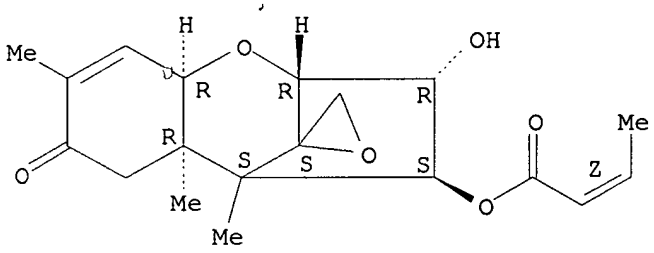
the formation of the A ring by the ring closing olefin metathesis reaction. The second ring can be appended by a Lewis acid catalyzed deprotection of the methoxymethyl group and a concomitant stereoselective cyclization reaction to the desired cis-fused tetrahedrochromane skeleton that corresponds to the trichothecene AB ring system. This bicyclic intermediate (IV) was transformed into the known intermediate II, resulting in the success of a formal total synthesis of the trichothecene.

IT **185334-08-1P**, Trichothecinol A
RL: PNU (Preparation, unclassified); PREP (Preparation)
(synthetic studies toward tumor promoting trichothecinols)

RN 185334-08-1 HCAPLUS

CN Trichothec-9-en-8-one, 12,13-epoxy-3-hydroxy-4-[[(2Z)-1-oxo-2-butenyl]oxy]-, (3.alpha.,4.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



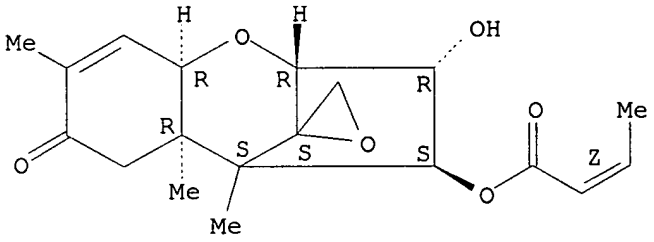
L45 ANSWER 3 OF 9 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:771178 HCAPLUS
DOCUMENT NUMBER: 132:119892
TITLE: New Trichothecenes Isolated from Holarrhena floribunda
AUTHOR(S): Loukaci, Ali; Kayser, Oliver; Bindseil, K.-U.; Siems, Karsten; Frevert, J.; Abreu, Pedro M.
CORPORATE SOURCE: Departamento de Quimica Centro de Quimica Fina e Biotecnologia, FCT-UNL, Caparica, 2825-114, Port.
SOURCE: Journal of Natural Products (2000), 63(1), 52-56
CODEN: JNPRDF; ISSN: 0163-3864
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Bioassay-guided fractionation of an ext. of Holarrhena floribunda stem, has led to the isolation of new trichothecenes, 8-dihydrotrichothecinol A (I), loukacinol A, and loukacinol B, and the known compds., trichothecolone, trichothecin, trichothecinol A (II), rosenonolactone, 6.beta.-hydroxyrosenonolactone (III), and rosololactone. The structures were detd. by spectral and chem. methods, and abs. configurations were established by a modified Horeau's method using HPLC. Compds. I and II exhibited significant cytotoxicity against several human tumor cell lines, whereas compd. III showed moderate and weak antileishmanial activity toward extracellular and intracellular Leishmania donovani, resp.

IT **185334-08-1P**, Trichothecinol A
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)
(trichothecenes from Holarrhena floribunda)

RN 185334-08-1 HCAPLUS
CN Trichothec-9-en-8-one, 12,13-epoxy-3-hydroxy-4-[[(2Z)-1-oxo-2-butenyl]oxy]-, (3.alpha.,4.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:282409 HCAPLUS
DOCUMENT NUMBER: 131:40846
TITLE: A novel tumor promoter, trichothecinol A
AUTHOR(S): Iida, A.; Konishi, K.; Tomioka, K.; Tokuda, H.; Nishino, H.
CORPORATE SOURCE: Graduate School of Pharmaceutical Sciences, Kyoto University, Kyoto, Japan
SOURCE: Tennen Yuki Kagobutsu Toronkai Koen Yoshishu (1997), 39th, 157-162
CODEN: TYKYDS
PUBLISHER: Nippon Kagakkai
DOCUMENT TYPE: Journal
LANGUAGE: Japanese

AB Three novel trichothecene sesquiterpenes, trichothecinols A (I), B and C were isolated from the fungus Trichothecium roseum (TMI-32358) together with some known analogs such as trichothecin. They showed inhibitory effect on Epstein-Barr virus early antigen (EBV-EA) activation induced by the tumor promoter 12-O-tetradecanoylphorbol 13-acetate (TPA) and thus were classified as anti-tumor promoters in vitro. We focused on the potent activity of I and further examd. its inhibitory effect on the tumor promotion in mouse skin in vivo. Surprisingly, while I reduced both the rate of papilloma-bearing mice and the no. of papillomas per mouse in the presence of TPA, I itself enhanced the tumor promotion in the absence of TPA and induced the formation of papillomas. In addn., malignant conversion of papillomas to carcinomas was caused after 20 wk without I. On the other hand, I did not enhance the tumor promotion in vitro in the absence of TPA at all. Accordingly, I was indicated to be a new class of tumor promoter that can be distinguished from TPA and teleocidin. In order to clarify the peculiar action of I in the tumor promotion, a structure-activity relationship was investigated with the natural products and compds. derived from I and trichothecin. In anti-tumor promoting effect in vitro, it was found that the presence of the isocrotonyl ester and conjugated ketone was most important for increasing the activity. The presence of the 3-hydroxyl group was also effective when the ketone carbonyl group was reduced. Interestingly trichothecin did not enhance the tumor promotion neither in vitro nor in vivo at all although the

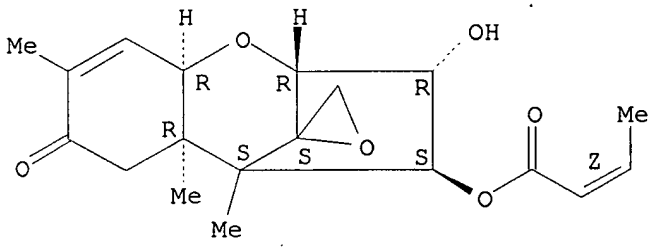
structure of 4 differs from 1 only in the lack of 3-hydroxyl group and its antitumor promoting activity in vitro was comparable to that of I. Therefore, it was strongly suggested that the 3-hydroxyl group plays a crucial role in the tumor promotion.

IT **185334-08-1**, Trichothecinol A
RL: ADV (Adverse effect, including toxicity); BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(novel tumor promoter trichothecinol A)

RN 185334-08-1 HCAPLUS

CN Trichothec-9-en-8-one, 12,13-epoxy-3-hydroxy-4-[[(2Z)-1-oxo-2-butenyl]oxy]-, (3.alpha.,4.beta.)- (9CI) (CA INDEX NAME)

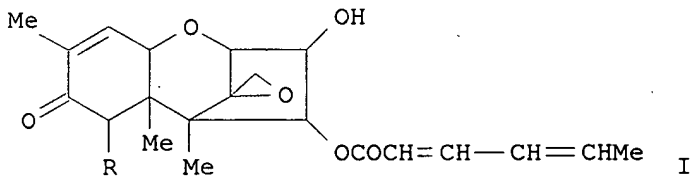
Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



L45 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1997:433383 HCAPLUS
DOCUMENT NUMBER: 127:49311
TITLE: Herbicidal F-11073 manufacture with Acremonium
INVENTOR(S): Otsuka, Takeo; Okamoto, Yoshihiro; Hosoya, Takeshi
PATENT ASSIGNEE(S): Sankyo Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09118682	A2	19970506	JP 1995-277255	19951025

PRIORITY APPLN. INFO.: JP 1995-277255 19951025
GI



I

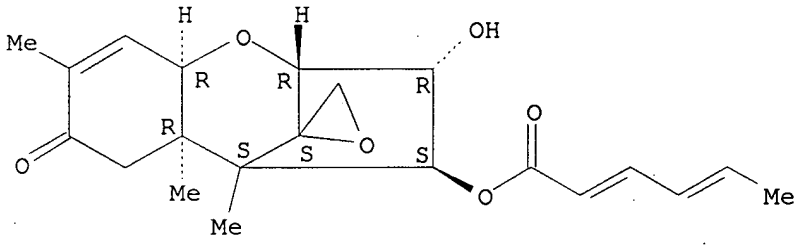
AB F-11073-1 (I) and F-11073-2 (II) are manufd. by culturing Acremonium sp.

SANK20. These herbicides have miticidal and bactericidal activities. Shake-culture of Acremonium sp. in a medium of glycerin, malt ext., yeast ext., etc., and recovery of I and II from the broth by extn. and chromatog. were shown. The physiol. and morphol. characteristics of Acremonium sp. and physicochem. characteristics of these herbicides were also given.

IT **191092-27-0P**, F 11073-1 **191092-28-1P**, F 11073-2
RL: AGR (Agricultural use); BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(herbicidal F-11073 manuf. with Acremonium)

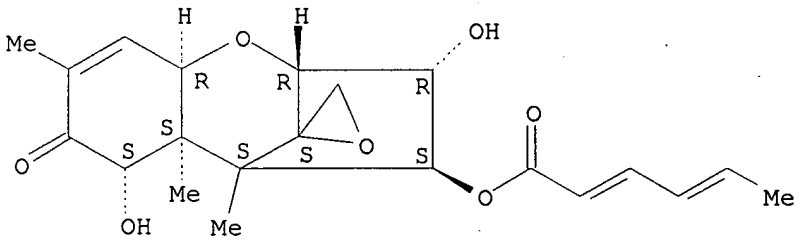
RN 191092-27-0 HCAPLUS
CN Trichothec-9-en-8-one, 12,13-epoxy-3-hydroxy-4-[(1-oxo-2,4-hexadienyl)oxy]-, (3.alpha.,4.beta.)- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry unknown.
Currently available stereo shown.



RN 191092-28-1 HCAPLUS
CN Trichothec-9-en-8-one, 12,13-epoxy-3,7-dihydroxy-4-[(1-oxo-2,4-hexadienyl)oxy]-, (3.alpha.,4.beta.,7.alpha.)- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry unknown.
Currently available stereo shown.



L45 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1997:10455 HCAPLUS
DOCUMENT NUMBER: 126:72359
TITLE: Trichothecinols A, B and C, potent anti-tumor promoting sesquiterpenoids from the fungus Trichothecium roseum
AUTHOR(S): Iida, Akira; Konishi, Kazuhide; Kubo, Hiroki; Tomioka, Kiyoshi; Tokuda, Harukuni; Nishino, Hoyoku
CORPORATE SOURCE: Faculty Pharmaceutical Sciences, Kyoto Univ., Kyoto, 606-01, Japan

SOURCE: Tetrahedron Letters (1996), 37(51), 9219-9220
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
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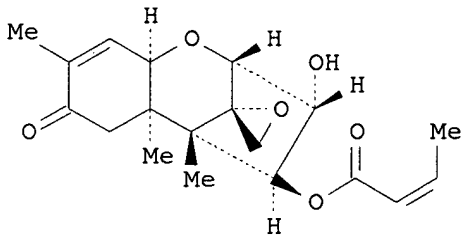

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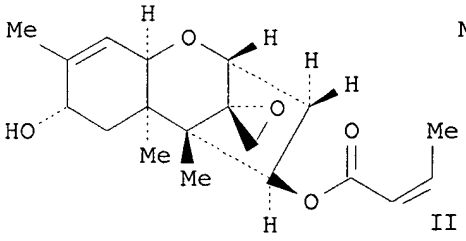
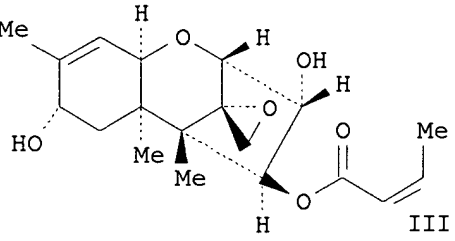


II



III

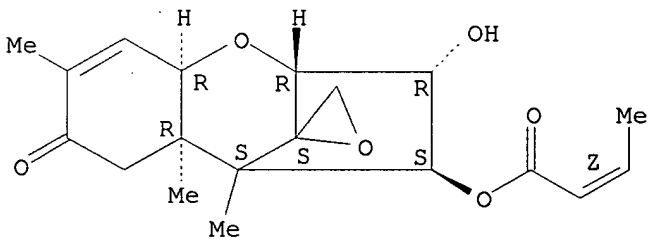
AB Three new trichothecenes, trichothecinols A (I), B (II) and C (III), were isolated from the fungus Trichothecium roseum and unambiguously characterized on the basis of spectroscopic and chem. evidence. These compds. exhibited potent inhibitory effects on Epstein-Barr virus early antigen (EBV-EA) activation induced by the tumor promoter 12-O-tetradecanoylphorbol-13-acetate.

IT **185334-08-1**, Trichothecinol A
RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); OCCU (Occurrence); USES (Uses)
(potent antitumor-promoting sesquiterpenoids from Trichothecium roseum)

RN 185334-08-1 HCAPLUS

CN Trichothec-9-en-8-one, 12,13-epoxy-3-hydroxy-4-[[(2Z)-1-oxo-2-butenyl]oxy]-, (3.alpha.,4.beta.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



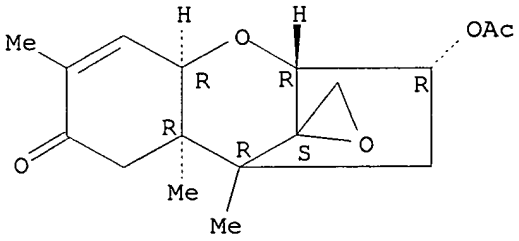
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L45 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1989:131825 HCAPLUS
DOCUMENT NUMBER: 110:131825
TITLE: Toxin-producing potential of some Fusarium species from a New Zealand pasture
AUTHOR(S): Lauren, D. R.; Di Menna, M. E.; Greenhalgh, R.; Miller, J. D.; Neish, G. A.; Burgess, L. W.
CORPORATE SOURCE: Ruakura Agric. Cent., Minist. Agric. Fish., Hamilton, N. Z.
SOURCE: New Zealand Journal of Agricultural Research (1988), 31(2), 219-25
CODEN: NEZFA7; ISSN: 0028-8233
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The isolation and taxonomic characterization of 25 isolates of Fusarium species from a New Zealand farm pasture are described. The ability of these isolates to produce mycotoxins both in liq. culture (MYRO and GYEP) and on rice grain culture was assessed. Toxin prodn. was assessed by a combination of chem. anal. methods and by HeLa cell toxicity tests. The toxins produced included zearalenone (by three isolates), zearalenols (one isolate), butenolide (12 isolates), and various trichothecenes (five isolates). An isolate of F. culmorum (DAOM 193612) produced .beta.-zearalenol (from rice culture) as the major toxin, whereas trichothecene prodn. was greatest in MYRO culture by one isolate of F. crookwellense (DAOM 193611). The major trichothecenes produced by this species were 4,15-diacetoxynivalenol followed by 8-hydroxy- and 7-hydroxyisotrichodermin. Several previously unreported compds. were also isolated. Known trichothecenes produced by other species were deoxynivalenol, 15-acetoxydeoxynivalenol, and 4,15-diacetoxyscirpenol. The possible impact of these toxins on the well-being of pasture-grazing animals is discussed.

IT **109802-15-5**
RL: BIOL (Biological study)
(from Fusarium species from New Zealand pasture)
RN 109802-15-5 HCAPLUS
CN Trichothec-9-en-8-one, 3-(acetyloxy)-12,13-epoxy-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L45 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1988:22077 HCAPLUS
DOCUMENT NUMBER: 108:22077

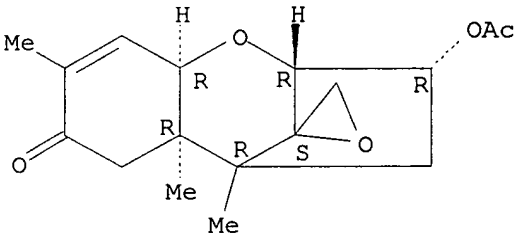
TITLE: A proton nuclear magnetic resonance study of derivatives of 3-hydroxy-12,13-epoxytrichothec-9-enes
AUTHOR(S): Savard, Marc E.; Blackwell, Barbara A.; Greenhalgh, Roy
CORPORATE SOURCE: Plant Res. Cent., Agric. Canada, Ottawa, ON, K1A 0C6, Can.
SOURCE: Canadian Journal of Chemistry (1987), 65(9), 2254-62
CODEN: CJCHAG; ISSN: 0008-4042
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The 250-MHz 1H NMR spectra of 36 natural and synthetic trichothecenes were analyzed and the chem. shifts as well as the vicinal and long-ranging coupling consts. detd. Knowledge of the 16-Me chem. shift enables the substitution pattern of the A ring to be defined. Similarly, oxygenation in the C ring results in easily identifiable resonances. The J2,3 and J3,4 values define the configuration of substituents at C-3 and C-4, while the configuration at C-7 and C-8 can be defined by the J7,8, J7.alpha.,11, and J7.beta.,15 values. The trichothecene ring system adopts the most stable A-half-chair, B-chair conformation in soln. The correlations obtained permit easy structural detn. of unknown trichothecenes.

IT **109802-15-5**
RL: PRP (Properties)
(NMR of)

RN 109802-15-5 HCAPLUS
CN Trichothec-9-en-8-one, 3-(acetyloxy)-12,13-epoxy-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L45 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1987:632731 HCAPLUS
DOCUMENT NUMBER: 107:232731
TITLE: Trichothecenes produced by Fusarium crookwellense DAOM 193611
AUTHOR(S): Lauren, Denis R.; Ashley, Anne; Blackwell, Barbara A.; Greenhalgh, Roy; Miller, J. David; Neish, Gordon A.
CORPORATE SOURCE: Ruakura Agric. Res. Cent., Minist. Agric. Fish., Hamilton, N. Z.
SOURCE: Journal of Agricultural and Food Chemistry (1987), 35(6), 884-9
CODEN: JAFCAU; ISSN: 0021-8561
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The trichothecene fraction produced by a liq. culture of F. crookwellense DAOM 193611 was sepd. by open-column liq. chromatog. on silica gel and by HPLC on a cyano bonded-phase column. The major trichothecene produced was

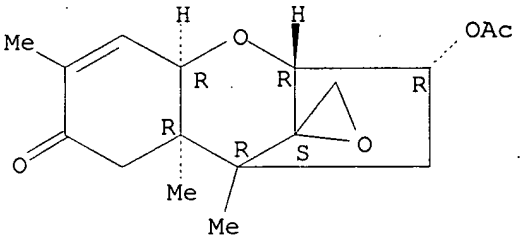
4,15-diacetoxynivalenol. Other secondary metabolites formed in appreciable amts. were the 7- and 8-hydroxy derivs. of isotrichodermin. Several unknown compds. were isolated and characterized by their mass spectra and 1H and 13C NMR spectra. Among these compds. were 7,8-dihydroxyisotrichodermin, 8-ketoisotrichodermin, and 4,15-diacetoxy-7-deoxynivalenol.

IT **109802-15-5**
RL: BIOL (Biological study)
(from Fusarium crookwellense)

RN 109802-15-5 HCAPLUS

CN Trichothec-9-en-8-one, 3-(acetyloxy)-12,13-epoxy-, (3.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



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=> d que
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L49             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  4-ACETYLNIVALENOL/CN
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L51             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  "4,15-DIACETYLNIVALENOL"/CN
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                  N
L58             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  14287-83-3
L59             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  DEOXYNIVALENOL/CN
L60             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  3-ACETYLDEOXYNIVALENOL/CN
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L62             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  "3,15-DIACETYLDEOXYNIVALENOL"
                  /CN
L63             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  "3,7,15-TRIACETYLDEOXYNIVALEN
                  OL"/CN
L64             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  HT-2/CN
L65             2 SEA FILE=REGISTRY ABB=ON  PLU=ON  T-2/CN
L66            14 SEA FILE=REGISTRY ABB=ON  PLU=ON  L48 OR L49 OR L50 OR L51 OR
                  L53 OR L58 OR (L59 OR L60 OR L61 OR L62 OR L63 OR L64 OR L65)
L67             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  TRICHOTHECENE/CN
L68            57 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L66 AND L67
L70            10 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L68 AND (ANTIBOD? OR IMMUNO?
                  OR HAPTEN? OR ANTIGEN OR HYBRIDOMA OR KEYHOLE OR KLH OR BOVINE
                  SERUM OR BSA OR OVALBUMIN OR OVA OR HORSERADISH OR HRP OR
                  THYROGLOBULIN)

=> d l70 ibib abs hitind 1-10

L70  ANSWER 1 OF 10  HCAPLUS  COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER:         2001:810466  HCAPLUS
DOCUMENT NUMBER:          136:32933
TITLE:                    Improvement of megakaryocytic progenitor culture for
                          toxicological investigations
AUTHOR(S):                Froquet, R.; Sibiril, Y.; Parent-Massin, D.
CORPORATE SOURCE:         Laboratoire de Microbiologie et Securite Alimentaire,
                          Technopole Brest-Iroise, ISAMOR, Ecole Superieure de
                          Microbiologie et Securite Alimentaire de Brest,
                          Plouzane, 29280, Fr.
SOURCE:                   Toxicology in Vitro (2001), 15(6), 691-699
                          CODEN: TIVIEQ; ISSN: 0887-2333
PUBLISHER:                Elsevier Science Ltd.
DOCUMENT TYPE:            Journal
LANGUAGE:                 English
AB   The aim of this work was to obtain an in vitro test for the evaluation of
     xenobiotic toxicity on the proliferation and on the differentiation of
     megakaryocyte progenitors. The rapid rate of blood cell renewal makes the
     hematopoietic system a susceptible target for xenobiotic toxicity.
     Hematotoxic mols. can affect one or more hematopoietic lineages leading to
     blood disorders. Megakaryocytopoiesis in vitro models applied to toxicol.
     investigations needs to be accurate, precise, reproducible, sensitive and
     specific. Human hematopoietic progenitors from umbilical cord blood were
     seeded in a collagen medium. Three solvents have been selected (ethanol,
     methanol, acetone), and one (DMSO) has been eliminated due to its
     cytotoxicity at tested concns. Cryopreservation did not affect the
     sensitivity of CFU-MK to xenobiotics. An overnight incubation of cell
```

suspensions as cell suspension enrichment before plating gave better cloning efficiency than CD34+ cells neg. selection. Comparison between different parameters allowed us to propose a protocol suitable for an in vitro megakaryocytopoiesis model in toxicol. investigations. The effects of three toxins were studied on CFU-MK development in order to verify the efficiency of this clonogenic assays for toxicity testing. The CFU-MK culture conditions defined revealed their usefulness for investigating drug cytotoxicity towards megakaryocytic progenitors and disturbance of their proliferation.

CC 4-1 (Toxicology)

IT CD34 (**antigen**)
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(cells contg.; xenobiotic hematotoxicity in relation to improvement of megakaryocytic progenitor culture for toxicol. investigations)

IT 64-17-5, Ethanol, biological studies 67-56-1, Methanol, biological studies 67-64-1, Acetone, biological studies 67-68-5, DMSO, biological studies 303-47-9, Ochratoxin A 21259-20-1, T-2 Toxin **51481-10-8**, Deoxynivalenol **51724-48-2**, Trichothecene
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(xenobiotic hematotoxicity in relation to improvement of megakaryocytic progenitor culture for toxicol. investigations)

REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L70 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:695794 HCAPLUS
DOCUMENT NUMBER: 136:19172
TITLE: The state-of-the-art in the analysis of type-A and -B trichothecene mycotoxins in cereals
AUTHOR(S): Krska, R.; Baumgartner, S.; Josephs, R.
CORPORATE SOURCE: Center for Analytical Chemistry, Institute for Agrobiotechnology (IFA-Tulln), Tulln, 3430, Austria
SOURCE: Fresenius' Journal of Analytical Chemistry (2001), 371(3), 285-299
CODEN: FJACES; ISSN: 0937-0633
PUBLISHER: Springer-Verlag
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB The aim of this review is to describe the state-of-the-art in the anal. of A- and B-trichothecene mycotoxins in cereals and to support knowledge and experience exchange between labs. in the field of Fusarium mycotoxin anal. Current screening tests and quant. methods for the most prevalent type-A and -B trichothecenes, HT-2, and T-2-toxin, and deoxynivalenol (DON) are reviewed. This includes the extn. and clean-up procedures and chromatog. methods (TLC, HPLC, GC) applied and the **immunochem**. methods, esp. ELISA (ELISA), employed for the detn. of these mycotoxins. Results from recent intercomparison studies of the detn. of DON are also discussed. Experience gained during these intercomparisons clearly shows the need for further improvement in the detn. of trichothecenes, to obtain more accurate and comparable results. This also indicates there is a strong need for the development of further certified ref. materials (CRM) which would enable comparison of measurement results between different European labs. for several A- and B-trichothecenes. For both A- and B-trichothecenes there is still a lack of simple and reliable screening methods enabling the rapid detection of these mycotoxins at low cost.

CC 17-0 (Food and Feed Chemistry)

IT Cereal (grain)

Chromatography
Extraction
Food analysis
Food contamination
Immunoassay
Standard substances, analytical
(state-of-the-art in anal. of type-A and -B trichothecene mycotoxins in cereals)
IT 21259-20-1, T-2-Toxin **51481-10-8**, Deoxynivalenol **51724-48-2**, Trichothecene
RL: ANT (Analyte); POL (Pollutant); ANST (Analytical study); OCCU (Occurrence)
(state-of-the-art in anal. of type-A and -B trichothecene mycotoxins in cereals)
REFERENCE COUNT: 124 THERE ARE 124 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L70 ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:430829 HCAPLUS
DOCUMENT NUMBER: 135:72628
TITLE: Effects of tebuconazole on morphology, structure, cell wall components and trichothecene production of Fusarium culmorum in vitro
AUTHOR(S): Kang, Zhensheng; Huang, Lili; Krieg, Ulrich; Mauler-Machnik, Astrid; Buchenauer, Heinrich
CORPORATE SOURCE: Institute of Phytomedicine (360), University of Hohenheim, Stuttgart, D-70593, Germany
SOURCE: Pest Management Science (2001), 57(6), 491-500
CODEN: PMSCFC; ISSN: 1526-498X
PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The effects of tebuconazole, a systemic fungicide, on the morphol., structure, cell wall components and toxin prodn. of Fusarium culmorum were investigated in vitro. Treatment was by application of four filter paper strips (0.75 cm .times. 5.0 cm) soaked in 20 .mu.gml-1 fungicide placed around a point inoculum in Petri dishes. Mycelial growth was strongly inhibited by fungicide treatment. Scanning electron microscopic observations showed that the fungicide caused irregular swelling and excessive branching of hyphae. The morphol. changes induced by the fungicide at the ultrastructural level included considerable thickening of the hyphal cell walls, excessive septation, the formation of the incomplete septa, extensive vacuolization, accumulation of lipid bodies and progressing necrosis or degeneration of the hyphal cytoplasm. Non-membrane inclusion bodies were often detected in the hyphal cytoplasm. Furthermore, the formation of new hyphae (daughter hyphae) inside collapsed hyphal cells was common following treatment. The daughter hyphae also displayed severe alterations such as irregular thickening of the cell walls and necrosis of the cytoplasm. Using cytochem. techniques, the labeling densities of chitin and .beta.-1,3-glucan in the cell walls of the fungicide-treated hyphae were more pronounced than in those of the control hyphae. Moreover, **immunogold** labeling with antiserum against deoxynivalenol (DON) revealed that Fusarium toxin DON was localized in the cell walls, cytoplasm, mitochondria and vacuoles of the hyphae from the control and the fungicide treatment, but the labeling d. in the fungicide-treated hyphae decreased dramatically compared with the

control hyphae, indicating that tebuconazole reduced Fusarium toxin prodn. of the fungus.

CC 5-2 (Agrochemical Bioregulators)
Section cross-reference(s): 10

IT **51481-10-8**, Deoxynivalenol
RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(effects of tebuconazole on morphol., structure, cell wall components and trichothecene prodn. of Fusarium culmorum in vitro)

IT **51724-48-2**, Trichothecene
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(effects of tebuconazole on morphol., structure, cell wall components and trichothecene prodn. of Fusarium culmorum in vitro)

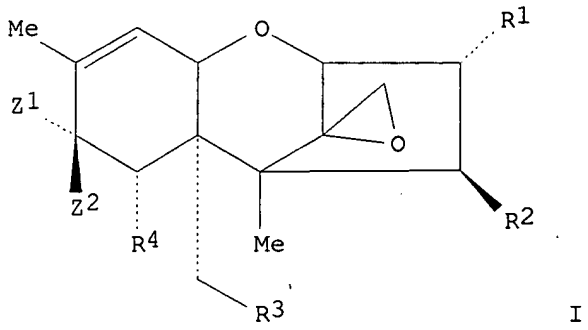
REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L70 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:185909 HCAPLUS
DOCUMENT NUMBER: 134:221453
TITLE: Monoclonal **antibodies** specific for trichothecene mycotoxin and their use in detecting toxin pollution in products and environment
INVENTOR(S): Kohno, Hiroaki; Hashimoto, Yuriko; Yoshizawa, Takumi
PATENT ASSIGNEE(S): Kyowa Medex Co., Ltd., Japan
SOURCE: PCT Int. Appl., 56 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001018196	A1	20010315	WO 2000-JP6100	20000907
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1215282	A1	20020619	EP 2000-957006	20000907
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				

PRIORITY APPLN. INFO.: JP 1999-253443 A 19990907
JP 1999-310185 A 19991029
WO 2000-JP6100 W 20000907

OTHER SOURCE(S): MARPAT 134:221453
GI



I

AB Monoclonal **antibodies** having high affinity for trichothecene mycotoxins, DON (deoxynivalenol), NIV(nivalenol) and T-2 toxin are created and trichothecene mycotoxins are embracively quantitated by using the **antibodies**. Mycotoxin I (R1-R4 = acyloxy, H, OH; Z1 = Me2CHCH2COO and Z2 = H or Z1 and Z2 are replaced by :O; at least one of R1-R4 is OH) was used as **antigen** to create monoclonal **antibodies**. The resulting monoclonal **antibodies** can specifically recognize mycotoxin II (I; R1, R3, R4 = OH, R2=CH3COO, Z1 + Z2 = :O), mycotoxin III (I; R1, R3, R4 = OH, acyloxy; R2b = H, OH, acyloxy; at least one of R1, R3 and R4 is acyloxy when R2 = H, OH; Z1 + Z2 = :O), and mycotoxin IV (I; R1-R3 = OH, acyloxy; R4 = H; Z1 = Me2CHCH2COO, Z2 = H and at least one of R1-R3 is acyloxy). These monoclonal **antibodies** showed higher affinity and specificity for DON, NIV and T-2 than the ones used before. This invention also provide the method for sampling and detecting mycotoxin producing fungi from product and environment.

IC ICM C12N015-02
ICS C12P021-08; C12N015-12; G01N033-53; G01N033-577

CC 15-3 (Immunochemistry)
Section cross-reference(s): 6

ST monoclonal **antibodies** trichothecene mycotoxin **immunoassay**; Fusarium mycotoxin DON deoxynivalenol NIV nivalenol T2 toxin

IT Environmental pollution
(by mycotoxin; monoclonal **antibodies** specific for trichothecene mycotoxin and their use in detecting toxin pollution in products and environment)

IT **Hybridoma**
(cloned, FERM BP-6835, 6836, 6837, to produce **antibodies**; monoclonal **antibodies** specific for trichothecene mycotoxin and their use in detecting toxin pollution in products and environment)

IT Mycotoxins
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(monoclonal **antibodies** specific for trichothecene mycotoxin and their use in detecting toxin pollution in products and environment)

IT **Antibodies**
RL: AGR (Agricultural use); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(monoclonal, for mycotoxin; monoclonal **antibodies** specific for trichothecene mycotoxin and their use in detecting toxin pollution in products and environment)

IT Fusarium chlamydosporum
Fusarium culmorum

Fusarium graminearum
(mycotoxin from; monoclonal **antibodies** specific for trichothecene mycotoxin and their use in detecting toxin pollution in products and environment)

IT Immobilization, biochemical
(of mycotoxin in reagent kit; monoclonal **antibodies** specific for trichothecene mycotoxin and their use in detecting toxin pollution in products and environment)

IT Esterification
(to convert mycotoxin to the form detectable; monoclonal **antibodies** specific for trichothecene mycotoxin and their use in detecting toxin pollution in products and environment)

IT **Immunoassay**
(to detect mycotoxin, using monoclonal **antibodies**; monoclonal **antibodies** specific for trichothecene mycotoxin and their use in detecting toxin pollution in products and environment)

IT Solvents
(water miscible, to isolate mycotoxin; monoclonal **antibodies** specific for trichothecene mycotoxin and their use in detecting toxin pollution in products and environment)

IT 21259-20-1, T-2 Toxin **23282-20-4**, Nivalenol **51724-48-2**
, Trichothecene
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(monoclonal **antibodies** specific for trichothecene mycotoxin and their use in detecting toxin pollution in products and environment)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L70 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1999:601331 HCAPLUS
DOCUMENT NUMBER: 131:307808
TITLE: In vitro exposure of human lymphocytes to trichothecenes: individual variation in sensitivity and effects of combined exposure on lymphocyte function
AUTHOR(S): Thuvander, A.; Wikman, C.; Gadhasson, I.
CORPORATE SOURCE: Division of Toxicology, National Food Administration, Uppsala, 751 26, Swed.
SOURCE: Food and Chemical Toxicology (1999), 37(6), 639-648
CODEN: FCTOD7; ISSN: 0278-6915
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The trichothecenes are mycotoxins produced by fungi of the genus Fusarium, which are commonly present in foods and feed of cereal origin. Owing to the lack of sufficient toxicol. data for most of the trichothecenes, in vitro studies may contribute to risk assessments of these toxins. In the present report, human lymphocyte cultures were used to study the individual variation in sensitivity among humans and the effects on in vitro **Ig** prodn. Furthermore, proliferative responses of cells exposed to combinations of two of the toxins were studied. Four toxins, T-2 toxin, diacetoxyscirpenol (DAS), nivalenol (NIV) and deoxynivalenol (DON) were included in the study. All four of the tested trichothecenes effectively inhibited mitogen-induced lymphocyte proliferation. There were no statistically significant differences in sensitivity to the toxins between lymphocytes from female and male blood donors. The individual

variation in sensitivity, evaluated as the range of IC50 values, was rather limited (within a factor of 3 to 4). **Ig** prodn. by pokeweed-stimulated human lymphocytes was also effectively inhibited with IC50 values similar to the IC50 values in the proliferation tests for DON and NIV. However, IC50 values for **Ig** synthesis in cultures exposed to T2 were approx. two to three times higher than the corresponding IC50 values found in the proliferation tests. At low levels of exposure, elevated **Ig** prodn. was obsd. in lymphocyte cultures from four out of the five blood donors tested. This effect was most pronounced on IgA synthesis. Combinations of NIV with T2, DAS or DON resulted in additive toxicity in the lymphocyte proliferation test, while combinations of DON with T2 or DAS resulted in an inhibition that was slightly lower than what could have been expected from the inhibition produced by the individual toxins. In conclusion, the tested trichothecenes inhibited both proliferation and **Ig** prodn. in human lymphocytes in a dose-dependent manner with limited variation in sensitivity between individuals. Enhanced **Ig** prodn. was obsd. in cell cultures exposed to the lower doses of the toxins. Combined exposure to two of the toxins resulted mainly in additive or antagonistic effects, although synergistic effects cannot be excluded and should be further investigated. These findings indicate that the total intake of type A and B trichothecenes should be taken into account in risk assessments.

CC 4-5 (Toxicology)

IT **Immunoglobulins**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(human lymphocytes response to trichothecene mycotoxins)

IT 2270-40-8 21259-20-1, T-2 Toxin **23282-20-4**, Nivalenol **51481-10-8**, Deoxynivalenol
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(human lymphocytes response to trichothecene mycotoxins)

IT **51724-48-2**, Trichothec-9-ene
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(mycotoxins; human lymphocytes response to trichothecene mycotoxins)

REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L70 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1998:543764 HCAPLUS
DOCUMENT NUMBER: 129:244276
TITLE: Performance of modern sample preparation techniques in the analysis of Fusarium mycotoxins in cereals
AUTHOR(S): Krska, Rudolf
CORPORATE SOURCE: Center for Analytical Chemistry, Institute for Agrobiotechnology (IFA-Tulln), Tulln, A-3430, Austria
SOURCE: Journal of Chromatography, A (1998), 815(1), 49-57
CODEN: JCRAEY; ISSN: 0021-9673
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The efficiency of modern sample prepn. techniques are discussed and compared to well-established techniques with respect to the detn. of zearalenone in corn and B-trichothecenes in wheat in the .mu.g/kg range. This includes the use of **immuno**-affinity columns and of multifunctional Mycosep columns as well as the employment of supercrit. fluid extn. for the trace anal. of these major Fusarium mycotoxins. In

addn., the performance of new anal. methods was investigated in an interlab. comparison study. From both the validation data and from the results of the intercomparison study, the suitability and competitiveness of the methods described could be clearly demonstrated.

CC 17-1 (Food and Feed Chemistry)

IT Chromatography
(**immunoaffinity**; sample prepn. techniques in anal. of Fusarium mycotoxins in cereals)

IT **51724-48-2**, Trichothec-9-ene
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(mycotoxins; sample prepn. techniques in anal. of Fusarium mycotoxins in cereals)

IT 17924-92-4, Zearalenone **23255-69-8**, Fusarenone X **23282-20-4**, Nivalenol **50722-38-8**, 3-Acetyldeoxynivalenol **51481-10-8**, Deoxynivalenol **88337-96-6**, 15-Acetyldeoxynivalenol
RL: ANT (Analyte); ANST (Analytical study)
(sample prepn. techniques in anal. of Fusarium mycotoxins in cereals)

REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L70 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1998:43218 HCAPLUS
DOCUMENT NUMBER: 128:127237
TITLE: Fumonisins as a possible contributory risk factor for primary liver cancer: a 3-year study of corn harvested in Haimen, China, by HPLC and ELISA
AUTHOR(S): Ueno, Y.; Iijima, K.; Wangi, S.-D.; Sugiura, Y.; Sekijima, M.; Tanaka, T.; Chen, C.; Yu, S.-Z.
CORPORATE SOURCE: Department of Toxicology and Microbial Chemistry, University of Tokyo, Tokyo, 162, Japan
SOURCE: Food and Chemical Toxicology (1997), 35(12), 1143-1150
CODEN: FCTOD7; ISSN: 0278-6915
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Employing HPLC fluorometry, gas-liq. chromatog. (GLC) and a novel ELISA based on a monoclonal **antibody**, 40 corn samples, each collected in 1993 from agricultural stocks for human consumption in Haimen (Jiangsu County) and Penlai (Shandong Province), high- and low-risk areas for primary liver cancer (PLC) in China, resp., were analyzed for fumonisins (FBs), aflatoxins (AFs) and trichothecenes. Levels and pos. rates of FBs and deoxynivalenol (DON) were significantly higher in Haimen than in Penlai. ELISA of the 40 corn samples harvested in the two areas in 1994 revealed that FB contamination levels and rates in these areas were comparable to those obsd. in 1993 in Haimen. ELISA anal. of 1993 and 1994 products revealed a wide occurrence of AFB1 but the pos. rates as well as levels were not significantly different between these areas. ELISA of the same sample no. of corn harvested in 1995 revealed that FB contamination in Haimen was significantly higher than in Penlai. These 3-yearly surveys of corn samples (240 in total) demonstrated that corn harvested in Haimen was highly contaminated with FBs and that the contamination level; as well as pos. rate in 1993 and 1995, were 10-50-fold higher than those in Penlai, suggesting FBs as a risk factor for promotion of PLC in endemic areas, along with the trichothecene DON. Co-contamination with AFs, potent hepatocarcinogens, was assumed to play an important role in the initiation of hepatocarcinogenesis.

CC 17-5 (Food and Feed Chemistry)
IT **Immunoassay**
(enzyme-linked **immunosorbent** assay; fumonisins as possible contributory risk factor for primary liver cancer-3-yr study of corn harvested in Haimen, China, by HPLC and ELISA)
IT 1162-65-8, Aflatoxin B1 **23282-20-4**, Nivalenol **51481-10-8**
, Deoxynivalenol **51724-48-2D**, Trichothecene, derivs.
116355-83-0, Fumonisin B1 116355-84-1, Fumonisin B2 136379-59-4, Fumonisin B3
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(fumonisins as possible contributory risk factor for primary liver cancer-3-yr study of corn harvested in Haimen, China, by HPLC and ELISA)
REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L70 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1996:278673 HCAPLUS
DOCUMENT NUMBER: 124:341283
TITLE: Natural occurrence of Fusarium mycotoxins in field samples from the 1992 Wisconsin corn crop
AUTHOR(S): Park, Joung J.; Smalley, Eugene B.; Chu, Fun S.
CORPORATE SOURCE: Food Research Institute, Univ. Wisconsin-Madison, Madison, WI, 53706, USA
SOURCE: Applied and Environmental Microbiology (1996), 62(5), 1642-1648
CODEN: AEMIDF; ISSN: 0099-2240
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Anal. of 98 moldy corn samples collected in Wisconsin between Nov. 1992 and Jan. 1993 for Fusarium toxins by various **immunochem**. assays revealed overall av. mycotoxin concns. of 305.6, 237.7, and 904.3 ng/g for type A trichothecenes (TCTCs), deoxynivalenol (DON)-related type B TCTCs (total DON), and zearalenone (ZE), resp. A small portion (5.1%) of the samples was found to be contaminated with high levels (>1 .mu.g/g) of type A TCTCs and total DON during the whole survey. Over 40% of the samples had 100 to 1,000 ng of total DON per g, while 17% of the samples had the same levels of type A TCTCs. The anal. data were consistent with those from mycol. examns. for the samples in which various toxic Fusarium spp., including F. sporotrichiodes, F. poae, and F. graminearum, were found. The samples received in Nov. 1992 had relatively low concns. of toxin; the av. levels of type A TCTCs and total DON were 9.9 and 79 ng/g, resp. The toxin concns. became progressively higher in the samples received in Dec. The av. levels for the type A TCTCs and total DON increased to 920 and 335 ng/g, resp. However, the levels of ZE were higher in the samples collected earlier. The av. levels for samples collected in Nov. and late Dec. were 1195 and 242 ng/g, resp. Anal. of selected samples by high-performance liq. chromatog. monitoring with an ELISA revealed that T-2 toxin, HT-2 toxin, diacetoxyscirpenol, neosolaniol, and T-2 tetraol (T-2-4ol) were common in these samples. Statistical anal. revealed a weak correlation between the levels of total type A TCTCs and total DON in the samples ($r = 0.18$, $P = 0.09$), but a strong correlation between the levels of ZE and total type B TCTCs ($r = 0.75$, $P<0.0001$) was found. The mycotoxin levels of total type A TCTCs, total DON-related type B TCTCs, and ZE in the cobs (5.2, 3.9, and 21 .mu.g/g, resp.) were considerably

higher than those in the kernels (1.0 and 0.5 .mu.g/g, resp.). The type A toxin levels increased from a range of 14 to 35 ng/g to a range of 110 to 538 ng/g after the moldy corn samples were held at 5.degree.C for 8 days in the lab.

CC 17-5 (Food and Feed Chemistry)

IT 2270-40-8 17924-92-4, Zearalenone 21259-20-1, T-2 Toxin 26934-87-2, HT-2 toxin 34114-99-3, T-2 Tetraol 36519-25-2, Neosolaniol **51481-10-8**, Deoxynivalenol **51724-48-2D**, Trichothecene, derivs.
RL: BSU (Biological study, unclassified); POL (Pollutant); BIOL (Biological study); OCCU (Occurrence)
(natural occurrence of Fusarium mycotoxins in field samples from 1992 Wisconsin corn crop)

L70 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1993:73245 HCAPLUS
DOCUMENT NUMBER: 118:73245
TITLE: Trichothecenes as antitumor substances: inhibition of growth of human lymphocytes, lymphoma and leukemia cells
AUTHOR(S): Mekhancha-Dahel, C.; Lafarge-Frayssinet, C.; Venuat, A. M.; Rosenfeld, C.; Frayssinet, C.
CORPORATE SOURCE: Lab. Pathol. Cell., IRSC, Villejuif, F-94801, Fr.
SOURCE: Journal of Cellular Pharmacology (1992), 2(6), 343-50
CODEN: JOCPEK; ISSN: 0939-1096
DOCUMENT TYPE: Journal
LANGUAGE: English

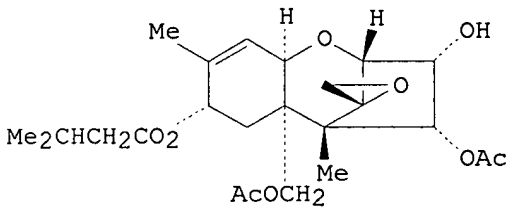
AB Trichothecenes are a family of natural cytotoxic compds.; one of them, DAS has been proposed as an antitumor agent. The use of these mols. is crit. due to their toxicity and **immunosuppressive** properties. The authors studied the cytotoxic properties for human peripheral blood lymphocytes, human lymphomas or leukemias of four compds.: T-2 toxin, DAS, trichodermin, DON, offering a large range of toxicity (LD50 ranging from 4 to 500 mg/kg in mouse). The eventual chemotherapeutic utilization of these products may be evaluated either by the ratio of toxicity for neoplastic cells vs. toxicity for non malignant cells, or vs. LD50 in vivo. Tumorogenic B cells are the most sensitive. Pre-B null cells are either insensitive to toxic effects of the drugs or stimulated at low doses of T-2 toxin. T cells gave variable responses, some of them being sensitive, the others not, a third class of T cells displayed an important growth enhancement for low doses of T-2 toxin. Among the toxins, T-2 and DAS were the most potent in abs. value but have the disadvantage of stimulation at low doses and toxicity. DON shows a very restricted activity with unfavorable tumor cell/non malignant cell ratio. Trichodermin appears to be the most interesting mol. with low toxicity and lack of stimulation at low doses.

CC 1-6 (Pharmacology)

IT 2270-40-8, DAS 4682-50-2, Trichodermin 21259-20-1, T-2 Toxin **51481-10-8 51724-48-2D**, Trichothecene, analogs
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antitumor activity of, in human lymphocyte and lymphoma and leukemia)

L70 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1985:482734 HCAPLUS
DOCUMENT NUMBER: 103:82734

TITLE: Toxicological properties of T-2 toxin and related trichothecenes
AUTHOR(S): Ueno, Y.; Muto, A.; Kobayashi, J.
CORPORATE SOURCE: Fac. Pharm. Sci., Tokyo Univ. Sci., Tokyo, 162, Japan
SOURCE: Archives Belges de Medecine Sociale, Hygiene, Medecine du Travail et Medecine Legale (1984), Suppl.(Proc.-World Congr. "New Compd. Biol. Chem. Warf.: Toxicol. Eval., 1st, 1984), 160-72
CODEN: ABMHAM; ISSN: 0003-9578
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
GI



I

AB A discussion on the toxicol. features of trichothecene mycotoxins, including T2 toxin (I) [21259-20-1], the prevention of the trichothecene exposure, and treatment or prophylaxis of the trichothecene toxicosis. Pharmacol., systemic, and **immunosuppressive** effects of the trichothecenes are presented.

CC 4-0 (Toxicology)

IT 2270-40-8 2290-11-1 3148-09-2 4643-58-7 14729-29-4 21259-20-1 21259-20-1D, metabolites 21284-11-7 **23255-69-8** **23282-20-4** **51481-10-8** 53126-63-9 53126-64-0
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study) (toxicity of)

IT **51724-48-2D**, derivs.
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study) (toxicity of, prevention of or treatment for)

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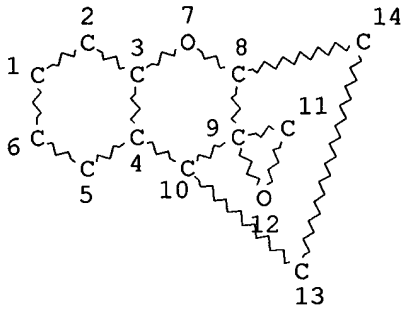

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11/14/03
MEC

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DEFAULT ECLEVEL IS LIMITED

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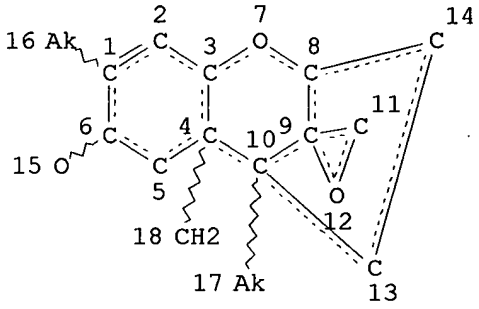

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DEFAULT ECLEVEL IS LIMITED

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STEREO ATTRIBUTES: NONE
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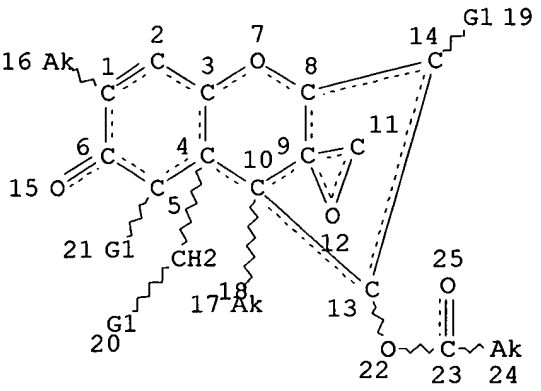

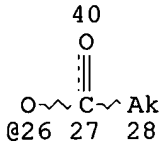

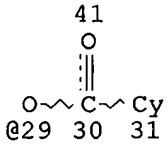

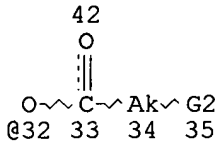

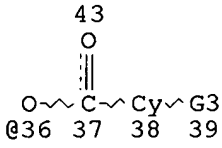

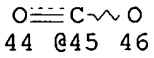

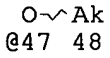

Page 1-A

@49

Page 1-B
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VAR G2=OH/45
VAR G3=49/47/OH/X/45
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CONNECT IS E1 RC AT 17
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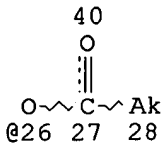

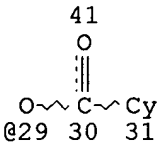

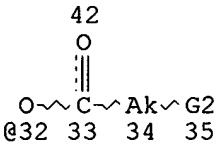

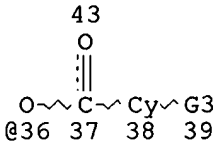

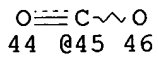

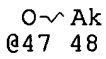

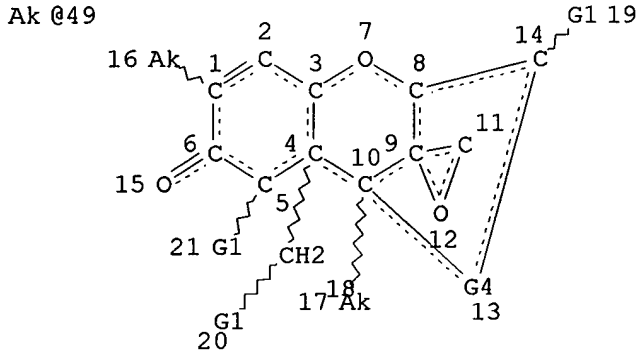

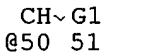

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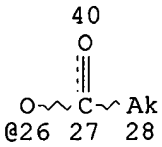

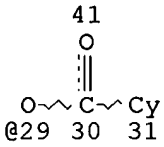

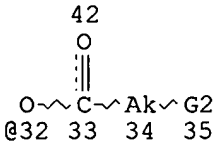

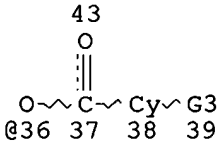

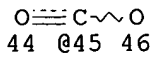

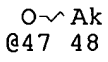

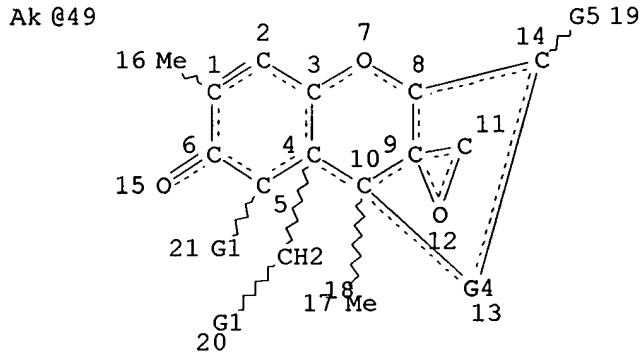

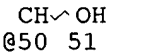

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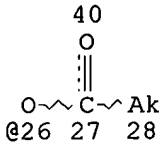

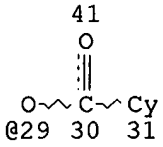

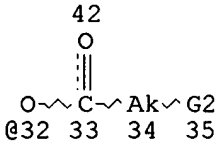

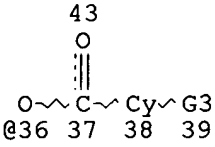

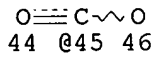

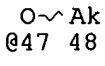

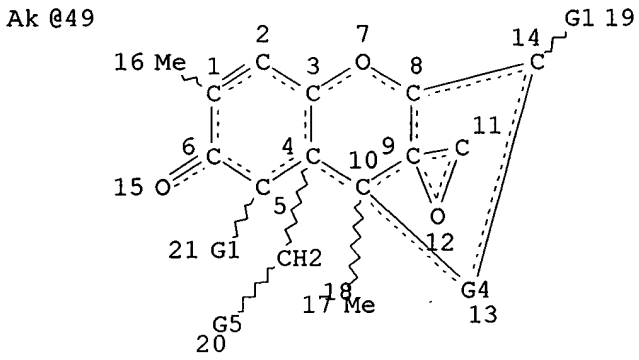

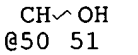

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GGCAT IS UNS AT 31
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DEFAULT ECLEVEL IS LIMITED

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NUMBER OF NODES IS 47

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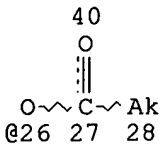

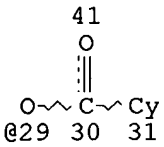

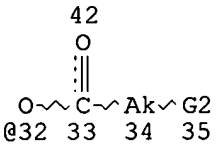

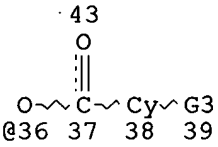

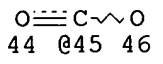

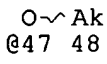

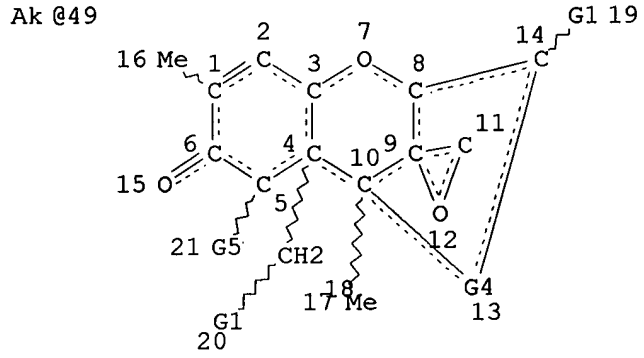

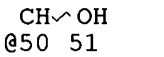

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VAR G5=26/29/32/36
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CONNECT IS E1 RC AT 46
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GGCAT IS UNS AT 31
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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
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NUMBER OF NODES IS 47

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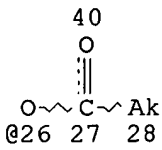

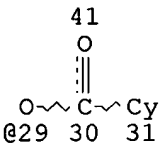

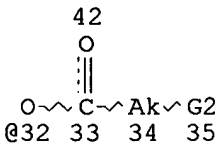

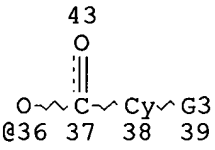

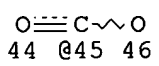

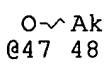

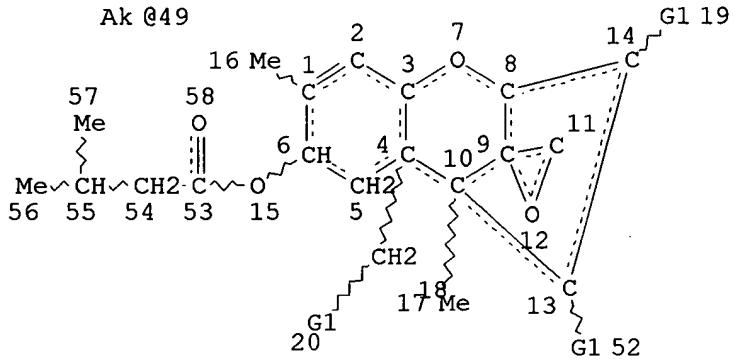

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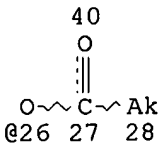

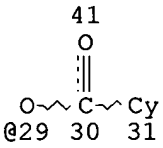

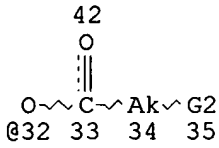

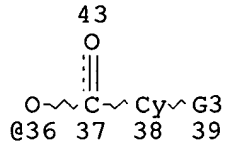

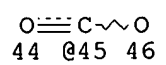

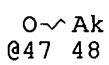

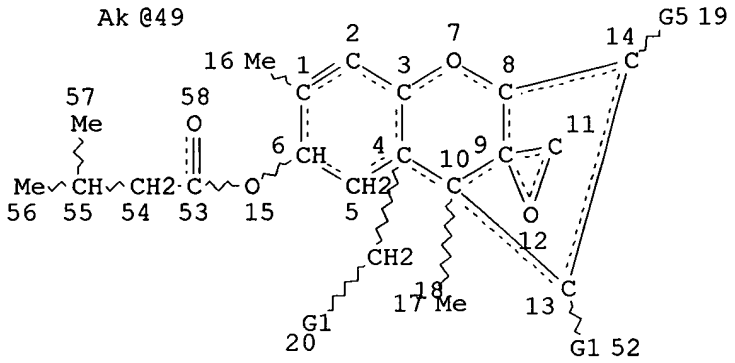

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CONNECT IS E1 RC AT 48
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GGCAT IS UNS AT 31
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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 51

STEREO ATTRIBUTES: NONE
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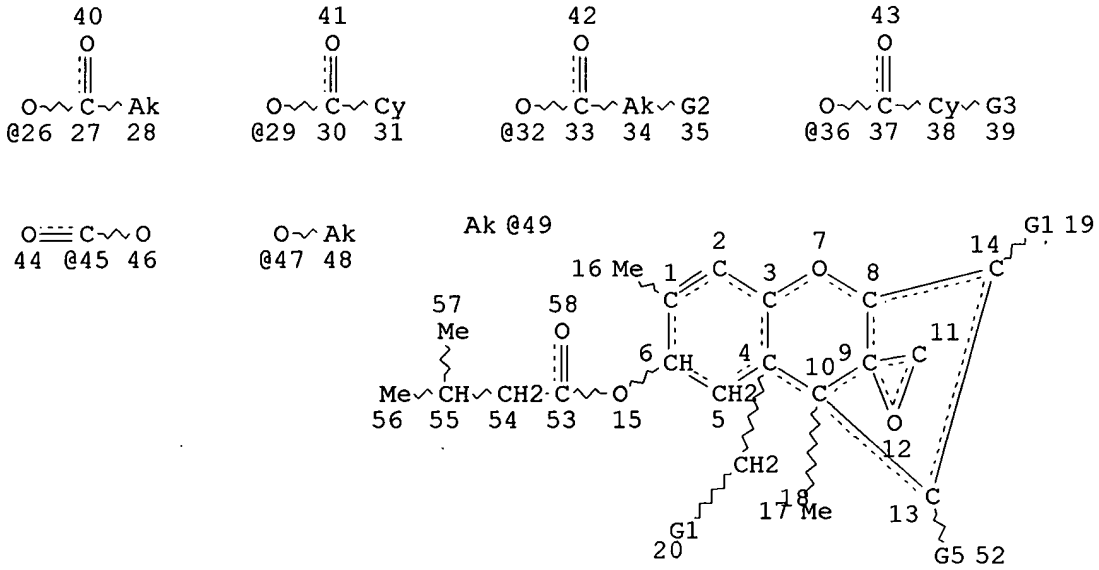
L23 STR



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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 51

STEREO ATTRIBUTES: NONE
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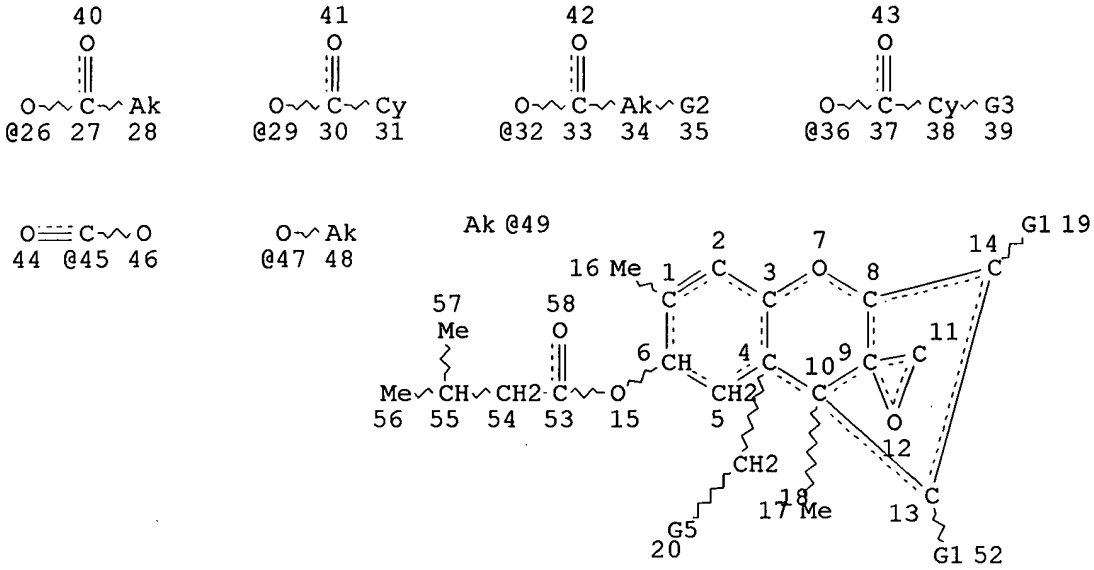

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NUMBER OF NODES IS 51

STEREO ATTRIBUTES: NONE

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L30	81	SEA FILE=HCAPLUS ABB=ON PLU=ON L6 AND L18 AND L28
L31	139	SEA FILE=HCAPLUS ABB=ON PLU=ON L29 AND ANTIBOD?
L32	4	SEA FILE=HCAPLUS ABB=ON PLU=ON L30 AND ANTIBOD?
L33	52466	SEA FILE=HCAPLUS ABB=ON PLU=ON "ANTIBODIES (L) MONOCLONAL"/CT
L34	42	SEA FILE=HCAPLUS ABB=ON PLU=ON L29 AND L33
L35	5017	SEA FILE=HCAPLUS ABB=ON PLU=ON HYBRIDOMA/CT
L36	2	SEA FILE=HCAPLUS ABB=ON PLU=ON L34 AND L35
L37	115	SEA FILE=HCAPLUS ABB=ON PLU=ON L31 AND (IMMUNO? OR HAPTEN OR ANTIGEN OR KEYHOLE OR KLH OR BOVINE SERUM OR BSA OR OVALBUMIN

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               OR OVA OR HORSERADISH OR HRP OR THYROGLOBULIN)
L38             3 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L37 AND L30
L40            48 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L37 AND ANTIBOD?(2A)MONOCLON?
L41            50 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L32 OR L36 OR L38 OR L40

=> d l41 ibib ab hitstr 1-50

L41  ANSWER 1 OF 50  HCAPLUS  COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER:         2003:42457  HCAPLUS
DOCUMENT NUMBER:          138:102294
TITLE:                    Correlation of TRI5-TRI6 intergenic region with
                          trichothecene production in Fusarium and methods for
                          determining capacity of trichothecene production
INVENTOR(S):              Bakan, Benedicte; Brygoo, Yves
PATENT ASSIGNEE(S):       Institut National de la Recherche Agronomique, Fr.
SOURCE:                   PCT Int. Appl., 76 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 French
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE          APPLICATION NO.  DATE
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     WO 2003004701      A2   20030116      WO 2002-FR2382   20020708
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
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             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
             PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
             UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,
             TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
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             PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
             NE, SN, TD, TG
     FR 2826978         A1   20030110      FR 2001-8997     20010706
PRIORITY APPLN. INFO.:                  FR 2001-8997     A  20010706
AB   The invention concerns a method for detg. the capacity of Fusarium for
     producing trichothecene toxins characterized in that it comprises a step
     which consists in detecting the sequence of a regulatory region between
     the TRI5 and TRI6 genes.  The sequence may be detected by hybridization,
     amplification, or sequencing.
IT   50722-38-8, 3-Acetyldeoxynivalenol 88337-96-6,
     15-Acetyldeoxynivalenol
     RL: BSU (Biological study, unclassified); BIOL (Biological study)
        (correlation of TRI5-TRI6 intergenic region with trichothecene prodn.
        in Fusarium and methods for detg. capacity of trichothecene prodn.)
RN   50722-38-8  HCAPLUS
CN   Trichothec-9-en-8-one, 3-(acetyloxy)-12,13-epoxy-7,15-dihydroxy-,
     (3.alpha.,7.alpha.)- (9CI)  (CA INDEX NAME)

Absolute stereochemistry.
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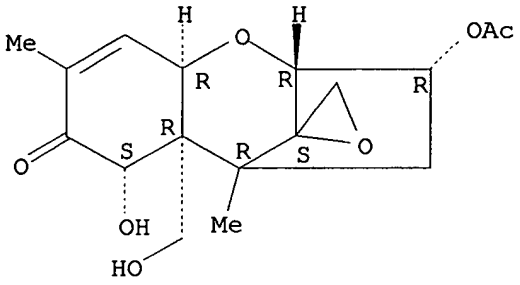
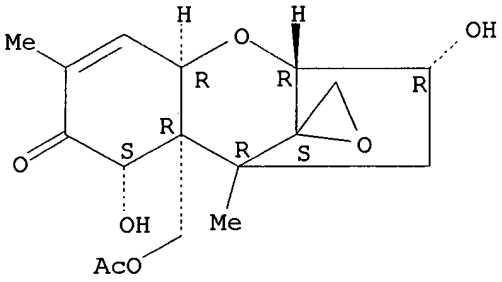


RN 88337-96-6 HCAPLUS
CN Trichothec-9-en-8-one, 15-(acetyloxy)-12,13-epoxy-3,7-dihydroxy-, (3.alpha.,7.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 2 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:220933 HCAPLUS
DOCUMENT NUMBER: 136:246799
TITLE: Fluorescence polarization-based homogeneous assay for deoxynivalenol determination in grains
INVENTOR(S): Nasir, Mohammad Sarwar; Jolley, Michael E.
PATENT ASSIGNEE(S): Diachemix Corporation, USA
SOURCE: PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002023196	A2	20020321	WO 2001-US42096	20010910

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2002055180	A1	20020509	US 2001-903061	20010711
AU 2001095033	A5	20020326	AU 2001-95033	20010910
EP 1320755	A2	20030625	EP 2001-975741	20010910

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

PRIORITY APPLN. INFO.: US 2000-231887P P 20000911
US 2001-903061 A 20010711
WO 2001-US42096 W 20010910

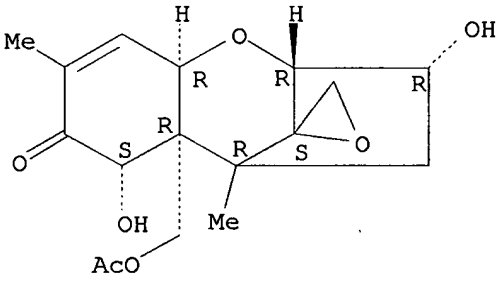
AB A homogeneous assay for detg. the deoxynivanlenol (DON) content in grains uses the technique of fluorescence polarization. A grain ext. is prepd. by shaking a crushed grain sample with water. A mixt. is prepd. by combining the grain ext. with a tracer and with **monoclonal antibodies** specific to DON. The tracer is able to bind to the **monoclonal antibodies** to produce a detectable change in fluorescence polarization. The tracer is prepd. by conjugating DON to a suitable fluorophore. The fluorescence polarization of the mixt. is measured. The DON concn. of the mixt. may be calcd. using a std. curve obtained by measuring the fluorescence polarization of a series of DON solns. of known concn. Thus, the tracer is DON conjugated to 6-aminofluorescein.

IT **88337-96-6**, 15-Acetyldeoxynivalenol
RL: ANT (Analyte); ANST (Analytical study)
(fluorescence polarization-based homogeneous assay for deoxynivalenol detn. in grains)

RN 88337-96-6 HCAPLUS

CN Trichothec-9-en-8-one, 15-(acetyloxy)-12,13-epoxy-3,7-dihydroxy-, (3.alpha.,7.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 3 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2002:145037 HCAPLUS

DOCUMENT NUMBER: 136:246591

TITLE: Rapid Fluorescence Polarization **Immunoassay** for the Mycotoxin Deoxynivalenol in Wheat

AUTHOR(S): Maragos, Chris M.; Plattner, Ronald D.

CORPORATE SOURCE: Mycotoxin Research Unit, National Center for Agricultural Utilization Research, USDA/ARS, Peoria, IL, 61604, USA

SOURCE: Journal of Agricultural and Food Chemistry (2002), 50(7), 1827-1832
CODEN: JAFCAU; ISSN: 0021-8561

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

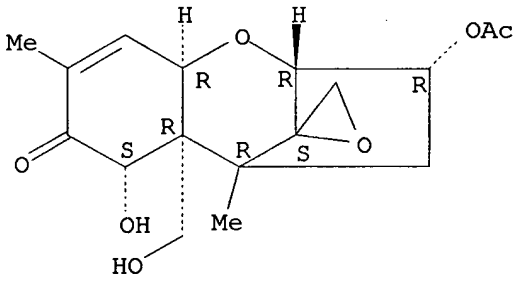
AB The fungus Fusarium graminearum, a pathogen of both wheat and maize, produces a toxin, deoxynivalenol (DON), that causes disease in livestock. A rapid test for DON in wheat was developed using the principle of fluorescence polarization (FP) **immunoassay**. The assay was based on the competition between DON and a novel DON-fluorescein tracer (DON-FL2) for a DON-specific **monoclonal antibody** in soln. The method, which is a substantial improvement over our previous DON FP **immunoassay**, combined a rapid (3 min) extn. step with a rapid (2 min) detection step. A series of naturally contaminated wheat and maize samples were analyzed by both FP **immunoassay** and liq. chromatog. (HPLC-UV). For wheat the HPLC-UV and FP methods agreed well (linear regression r2 = 0.936), but for maize the two methods did not (r 2 = 0.849). We conclude that the FP method is useful for screening wheat, but not maize, for DON.

IT **50722-38-8**, 3-Acetyl-deoxynivalenol **88337-96-6**, 15-Acetyl-deoxynivalenol
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(mycotoxin deoxynivalenol in wheat and corn detd. by rapid fluorescence polarization **immunoassay** and cross-reactivity)

RN 50722-38-8 HCAPLUS

CN Trichothec-9-en-8-one, 3-(acetyloxy)-12,13-epoxy-7,15-dihydroxy-, (3.alpha.,7.alpha.)- (9CI) (CA INDEX NAME)

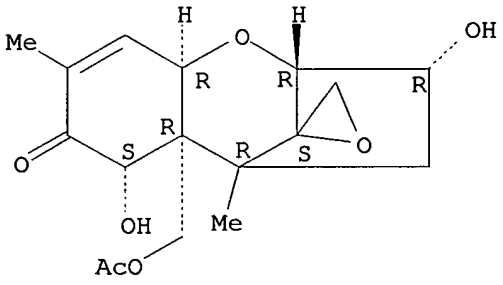
Absolute stereochemistry.



RN 88337-96-6 HCAPLUS

CN Trichothec-9-en-8-one, 15-(acetyloxy)-12,13-epoxy-3,7-dihydroxy-, (3.alpha.,7.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 4 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2002:73046 HCAPLUS
DOCUMENT NUMBER: 136:84691
TITLE: Process for producing **antibody** against T-2 toxin
INVENTOR(S): Yun, Hwa Jung
PATENT ASSIGNEE(S): S. Korea
SOURCE: Repub. Korean Kongkae Taeho Kongbo, No pp. given
CODEN: KRXXA7
DOCUMENT TYPE: Patent
LANGUAGE: Korean
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
KR 2000021426	A	20000425	KR 1998-40517	19980929

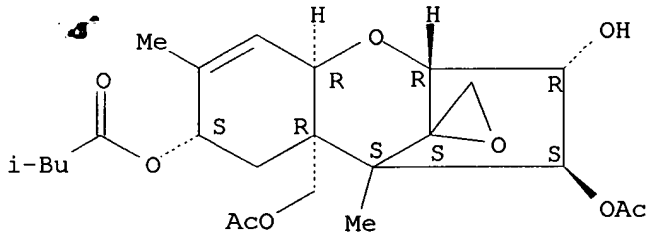
PRIORITY APPLN. INFO.: KR 1998-40517 19980929

AB PURPOSE: Provided is a process for producing **monoclonal antibody** in large quantities, which specifically binds with T-2 toxin and can be effectively used to detection of the toxin produced by fungi contamination in cereals or livestock feeds. CONSTITUTION: A process of **antibody** prodn. comprises: producing T-2 hemisuccinate(T-2HS) conjugate then T-2HS-**BSA** or T-2HS-**HRP** is produced chem. by crosslinking T-2HS with **bovine serum** albumin (**BSA**) or horse radish peroxidase(**HRP**), injecting the toxin-protein conjugate into a mouse, booting the **antibody** prodn. by a second injection, collecting immune cells from spleen of the booster mouse, fusing the immune cells with SP2/O-Ag 14 mouse myeloma cells to produce hybridoma, screening hybridoma cell lines producing **monoclonal antibody** against T-2 toxin, reintroducing the selected hybridoma cells into abdominal cavity of Balb/c mouse for large prodn. of **antibody**, collecting the abdominal dropsy, filter-harvesting the **antibodies**. T-2 toxin within cereals or feeds can be easily analyzed quant. or qual. using this **monoclonal antibody** by ELISA (ELISA).

IT **21259-20-1**, T-2 Toxin
RL: ANT (Analyte); ANST (Analytical study)
(**monoclonal antibodies** to T-2 toxin and their prepn.)

RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



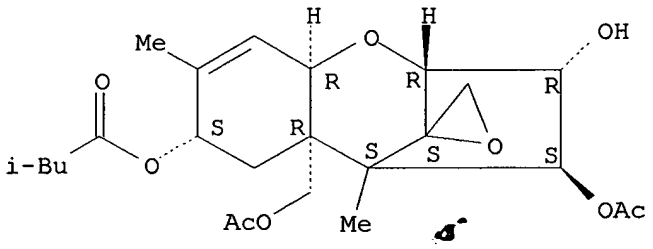
L41 ANSWER 5 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:207024 HCAPLUS
DOCUMENT NUMBER: 134:349226
TITLE: Effects of mycotoxins on human immune functions in vitro
AUTHOR(S): Berek, L.; Petri, I. B.; Mesterhazy, A.; Teren, J.; Molnar, J.
CORPORATE SOURCE: Blood Transfusion Center, Albert Szent-Gyorgyi Medical University, Szeged, H-6720, Hung.
SOURCE: Toxicology in Vitro (2001), 15(1), 25-30
CODEN: TIVIEQ; ISSN: 0887-2333
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The **immunol**. effects of Fusarium mycotoxins were tested on human peripheral blood mononuclear cells from different blood donors. In the present study the authors investigated deoxynivalenol, 3-acetyldeoxynivalenol, fusarenon-X, T-2 toxin, zearalenone, .alpha.-zearalenol, .beta.-zearalenol, and nivalenol for their effects on T and B cells in a proliferation assay, **antibody**-dependent cellular cytotoxicity, and natural killer (NK) cell activity on human peripheral blood mononuclear cells. The concns. applied in the expts. were similar to those which can be found in normal human peripheral blood system (0.2-1800 ng/mL). Among the 8 mycotoxins tested, T-2 toxin, fusarenon X, nivalenol, and deoxynivalenol exerted the highest **immunosuppressing** effect on human peripheral blood mononuclear cells in vitro. Mycotoxin-induced **immunosuppression** was manifested as depressed T or B lymphocyte activity. Furthermore, by virtue of inhibition of NK cell activity, the protection against tumor development may also be attenuated.

IT **21259-20-1**, T-2 Toxin **23255-69-8**, Fusarenon-X
50722-38-8, 3-Acetyldeoxynivalenol
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(Fusarium mycotoxin effects on human immune functions in vitro)

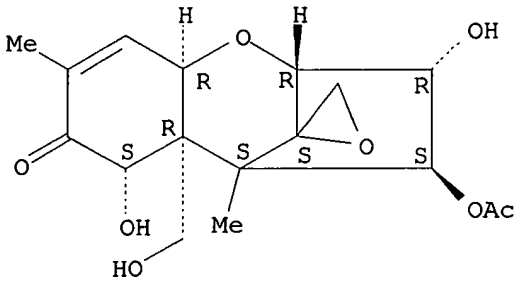
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



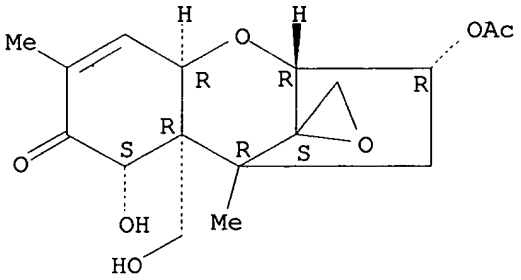
RN 23255-69-8 HCAPLUS
CN Trichothec-9-en-8-one, 4-(acetyloxy)-12,13-epoxy-3,7,15-trihydroxy-, (3.alpha.,4.beta.,7.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 50722-38-8 HCAPLUS
CN Trichothec-9-en-8-one, 3-(acetyloxy)-12,13-epoxy-7,15-dihydroxy-, (3.alpha.,7.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 6 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2001:185909 HCAPLUS
DOCUMENT NUMBER: 134:221453
TITLE: **Monoclonal antibodies** specific for trichothecene mycotoxin and their use in detecting toxin pollution in products and environment
INVENTOR(S): Kohno, Hiroaki; Hashimoto, Yuriko; Yoshizawa, Takumi
PATENT ASSIGNEE(S): Kyowa Medex Co., Ltd., Japan
SOURCE: PCT Int. Appl., 56 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001018196	A1	20010315	WO 2000-JP6100	20000907

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

EP 1215282 A1 20020619 EP 2000-957006 20000907

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL

PRIORITY APPLN. INFO.: JP 1999-253443 A 19990907
JP 1999-310185 A 19991029
WO 2000-JP6100 W 20000907

OTHER SOURCE(S): MARPAT 134:221453

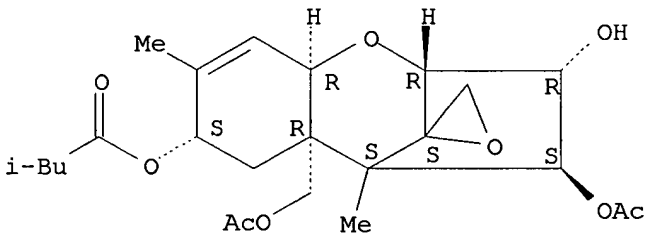
AB **Monoclonal antibodies** having high affinity for trichothecene mycotoxins, DON (deoxynivalenol), NIV(nivalenol) and T-2 toxin are created and trichothecene mycotoxins are embracively quantitated by using the **antibodies**. Mycotoxin I (R1-R4 = acyloxy, H, OH; Z1 = Me2CHCH2COO and Z2 = H or Z1 and Z2 are replaced by :O; at least one of R1-R4 is OH) was used as **antigen** to create **monoclonal antibodies**. The resulting **monoclonal antibodies** can specifically recognize mycotoxin II (I; R1, R3, R4 = OH, R2=CH3COO, Z1 + Z2 = :O), mycotoxin III (I; R1, R3, R4 = OH, acyloxy; R2b = H, OH, acyloxy; at least one of R1, R3 and R4 is acyloxy when R2 = H, OH; Z1 + Z2 = :O), and mycotoxin IV (I; R1-R3 = OH, acyloxy; R4 = H; Z1 = Me2CHCH2COO, Z2 = H and at least one of R1-R3 is acyloxy). These **monoclonal antibodies** showed higher affinity and specificity for DON, NIV and T-2 than the ones used before. This invention also provide the method for sampling and detecting mycotoxin producing fungi from product and environment.

IT **21259-20-1**, T-2 Toxin
RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)
(**monoclonal antibodies** specific for trichothecene mycotoxin and their use in detecting toxin pollution in products and environment)

RN 21259-20-1 HCAPLUS

CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 7 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 2000:757166 HCAPLUS

DOCUMENT NUMBER: 134:41274

TITLE: Detection of T-2 Toxin in Different Cereals by Flow-Through Enzyme **Immunoassay** with a Simultaneous Internal Reference

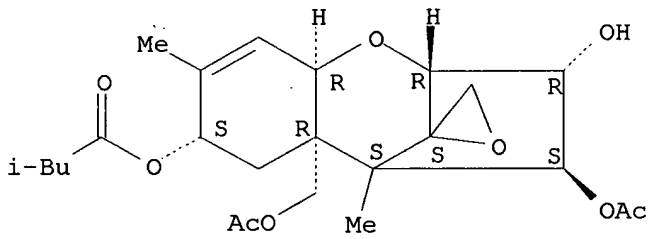
AUTHOR(S): Sibanda, Liberty; De Saeger, Sarah; Van Peteghem, Carlos; Grabarkiewicz-Szczesna, Jadwiga; Tomczak, Magdalena
CORPORATE SOURCE: Laboratory of Food Analysis Faculty of Pharmaceutical Sciences, Gent University, Ghent, B-9000, Belg.
SOURCE: Journal of Agricultural and Food Chemistry (2000), 48(12), 5864-5867
CODEN: JAFCAU; ISSN: 0021-8561
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In most previously described membrane-based **immunoassays** a sep. neg. control assay is always carried out to evaluate the performance of the assay. To overcome this problem, a membrane-based flow-through enzyme **immunoassay** with an internal control has been developed for the detection of T-2 toxin in cereals (patent pending). An **Immunodyne** ABC membrane was coated with 2 .mu.L of goat anti-**horseradish** peroxidase (**HRP**) (internal control spot) (1:1000) and 2 .mu.L of rabbit anti-mouse (test spot) (undiluted) **Igs**, and the free binding sites were blocked. In addn. to the **antibody**-coated **Immunodyne** ABC membrane, the assay also comprises a plastic snap-fit device, absorbent cotton wool, mouse anti-T-2 **monoclonal antibodies** (Mab), and T-2-**HRP** conjugate. The color intensity (.DELTA.E*ab) of the internal control and that of the neg. sample showed no difference ($P > 0.05$), whereas there was a significant difference between the internal control and pos. samples ($P < 0.05$). The min. detectable limit that could be visually detected with confidence was 50 ng of T-2 per g of cereal sample.

IT **21259-20-1**, t-2 Toxin
RL: ANT (Analyte); ANST (Analytical study)
(T-2 Toxin detection in different cereals by flow-through enzyme **immunoassay** with a simultaneous internal ref.)

RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 8 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 2000:711320 HCAPLUS
DOCUMENT NUMBER: 134:192398
TITLE: **Immunodiagnostics** for food and feed safety
AUTHOR(S): Barna-Vetro, Ildiko; Balazs, Ervin; Solti, Laszlo
CORPORATE SOURCE: Diagnostic Lab., Godollo, H-2101, Hung.

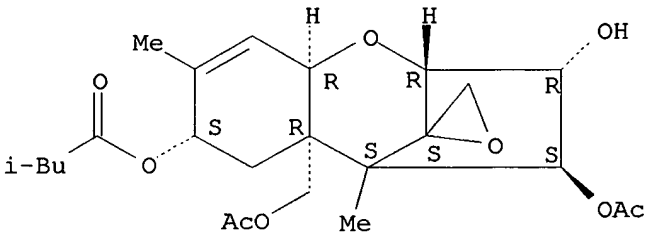
SOURCE: American Laboratory (Shelton, Connecticut) (2000), 32(17), 64, 66
CODEN: ALBYBL; ISSN: 0044-7749
PUBLISHER: International Scientific Communications, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Food and feed safety is one of the most important areas of research and development. It has been the focus of the Agricultural Biotechnol. Center in Hungary. Fungi are heterotrophic microorganisms that can be found throughout nature. During propagation, they produce secondary metabolites called mycotoxins that are very poisonous. In temperate climates, the most frequent Fusarium toxins are T-2, zearalenone (F-2), deoxynivalenol (DON), diacetoxyscirpenol, and fumonisins. The acceptable mycotoxin limits according to the Hungarian Mycotoxin Std. are presented in a table. In order to enforce these limits, reliable methods of detection and detn. are required. Since enzyme **immunoassay** is inexpensive and fulfills the requirements of sensitivity, simplicity and reliability, ELISA tests based on **monoclonal antibodies** were developed for mycotoxin anal. As a result, five mycotoxin kits have been developed and are com. available.

IT **21259-20-1**, Mycotoxin T-2
RL: ANT (Analyte); POL (Pollutant); ANST (Analytical study); OCCU (Occurrence)
(**immunodiagnostics** of mycotoxins for food and feed safety)

RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 9 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1998:129167 HCAPLUS
DOCUMENT NUMBER: 128:253964
TITLE: T-2 toxin induces thymic apoptosis in vivo in mice
AUTHOR(S): Islam, Zahidul; Nagase, Masahiro; Yoshizawa, Takumi; Yamauchi, Koh-En; Sakato, Nobuo
CORPORATE SOURCE: Faculty of Agriculture, Kagawa University, Kagawa, 761-0795, Japan
SOURCE: Toxicology and Applied Pharmacology (1998), 148(2), 205-214
CODEN: TXAPA9; ISSN: 0041-008X
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English

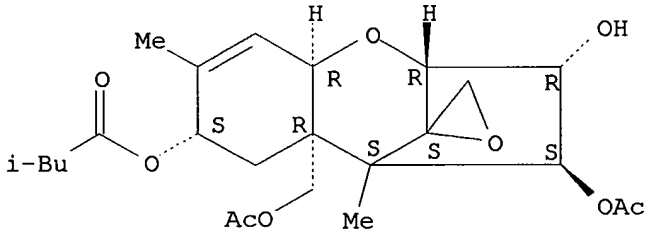
AB A single i.p. injection of T-2 toxin (0.35, 1.75, or 3.5 mg/kg body wt.) induced time- and dose-dependent thymic atrophy in young female BALB/c mice. T-2 toxin (1.75 mg/kg) induced maximal atrophy by day 3 with complete recovery by day 7. Flow cytometric anal. showed that the CD4+CD8+ double pos. thymocyte population decreased markedly. Histopathol. examn. of the thymus indicated that the pattern of cell death in the thymocytes had a characteristic apoptotic morphol. with cell shrinkage and nuclear condensation. The in vivo effects of T-2 toxin included the induction of DNA fragmentation of .apprx.200 base pairs in ladder form and cell death in thymocytes. Furthermore, flow cytometric anal. of PI-stained thymocytes from animals dosed with T-2 toxin revealed the formation of apoptotic cells. Of nine kinds of trichothecene mycotoxins tested, T-2 toxin appeared to be the most potent agent to induce apoptosis in the thymus. We sought insight into the mechanism of T-2 toxin-induced apoptosis in vivo. Administration of the protein synthesis inhibitor, CHX (15 mg/kg i.p.), 5 min after T-2 toxin (1.75 mg/kg i.p.) inhibited the induction of apoptosis in thymocytes, suggesting that the de novo protein synthesis was necessary. By using adrenalectomized mice and anti-TNF-.alpha. **antibody**-injected mice, it was shown that neither endogenous glucocorticoid nor TNF-.alpha. appeared to be involved in the apoptotic process. Taken together, these findings suggest that T-2 toxin-induced thymic atrophy is assocd. with cell death through a mechanism of apoptosis.

IT **21259-20-1**, T-2 Toxin **23255-69-8**, Fusarenon X
50722-38-8, 3-Acetyldeoxynivalenol
RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)
(T-2 toxin induction of thymic apoptosis)

RN 21259-20-1 HCAPLUS

CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

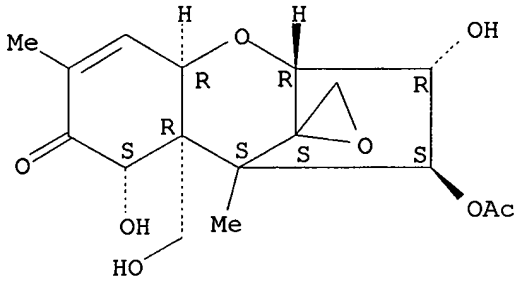
Absolute stereochemistry.



RN 23255-69-8 HCAPLUS

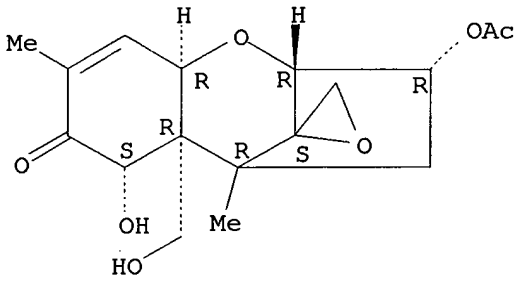
CN Trichothec-9-en-8-one, 4-(acetyloxy)-12,13-epoxy-3,7,15-trihydroxy-, (3.alpha.,4.beta.,7.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 50722-38-8 HCAPLUS
CN Trichothec-9-en-8-one, 3-(acetyloxy)-12,13-epoxy-7,15-dihydroxy-, (3.alpha.,7.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

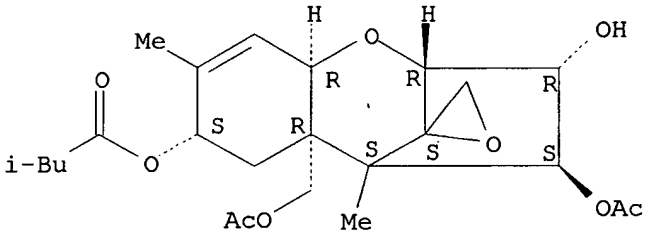
L41 ANSWER 10 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1997:660090 HCAPLUS
DOCUMENT NUMBER: 127:274937
TITLE: Development of enzyme-linked **immunosorbent** assay system for the detection of deoxynivalenol in corn
AUTHOR(S): Lee, Hyang-Burn; Shon, Dong-Hwa; Kosaka, Kunio; Ueno, Yoshio
CORPORATE SOURCE: Food Chemistry and Physics Division, Korea Food Research Institute, Songnam, 463-420, S. Korea
SOURCE: Sanop Misaengmul Hakhoechi (1997), 25(4), 414-419
CODEN: SMHAEH; ISSN: 0257-2389
PUBLISHER: Korean Society for Applied Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: Korean
AB To develop an ELISA for the detn. of Fusarium mycotoxin deoxynivalenol (DON) in corn, we produced a specific **monoclonal antibody** and established optimal ELISA conditions. After the spleen cells from mice immunized with DON-**bovine serum** albumin conjugate were fused with SP2/O myeloma cells, hybridoma 3G7 cells producing anti-DON **antibodies** were screened by ELISA. The std. curve of competitive direct ELISA (cdELISA), using 3G7 **monoclonal antibody** and DON-**horseradish** peroxidase conjugate, showed a detection range of 3-3,000 ng DON/mL (ppb). The

monoclonal antibody showed some cross-reactivities against DON analogs such as 15-acetyl-DON (110%), nivalenol (5.0%), 3-acetyl-DON (1.7%), fusarenon-x (0.72%), and T-2 toxin (0.59%). When the cdELISA was used on spiked corn samples after extg. with 60% methanol and dilg. 5-fold with a washing buffer, the assay recoveries of DON were 313, 163, 106, and 88.9% (av., 168%) for the spike levels of 200, 600, 2,000, and 6,000 ng/g, resp. For the quantitation of DON in stored corn, 30 samples were kept under cold and room temp. and were subsequently assayed by cdELISA. The mean detected concns. were 595 (detection range, 0-2,750) and 2,448 (detection range, 0-4,500) ppb, resp.

IT **21259-20-1**, t 2 **23255-69-8**, Fusarenon x **50722-38-8**, 3-Acetyl deoxynivalenol **88337-96-6**, 15-Acetyl deoxynivalenol
RL: ANT (Analyte); ANST (Analytical study)
(development of ELISA system for detection of deoxynivalenol mycotoxin in corn)

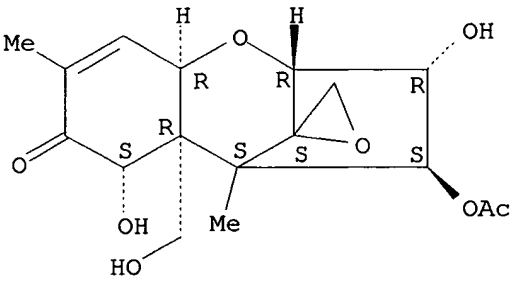
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



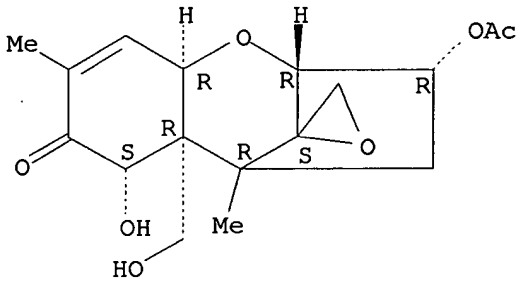
RN 23255-69-8 HCAPLUS
CN Trichothec-9-en-8-one, 4-(acetyloxy)-12,13-epoxy-3,7,15-trihydroxy-, (3.alpha.,4.beta.,7.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



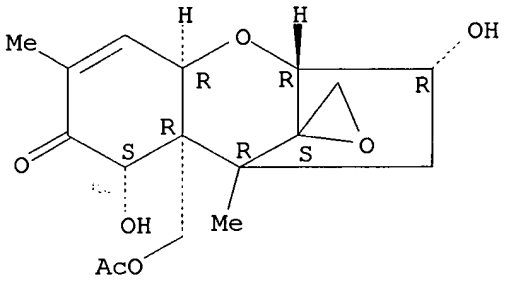
RN 50722-38-8 HCAPLUS
CN Trichothec-9-en-8-one, 3-(acetyloxy)-12,13-epoxy-7,15-dihydroxy-, (3.alpha.,7.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 88337-96-6 HCAPLUS
CN Trichothec-9-en-8-one, 15-(acetyloxy)-12,13-epoxy-3,7-dihydroxy-, (3.alpha.,7.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



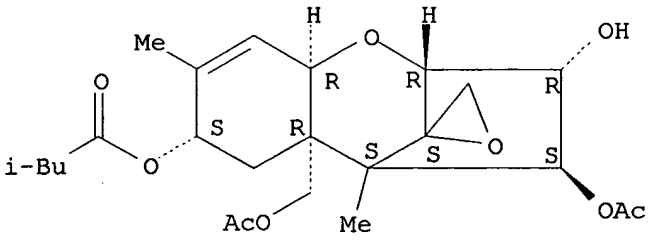
L41 ANSWER 11 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1996:615605 HCAPLUS
DOCUMENT NUMBER: 125:267642
TITLE: **Immunodiagnostics** for mycotoxin determination
AUTHOR(S): Barna-vetro, I.; Solti, L.; Gyoengyoesi, H. A.; Szabo, J.; Woelfling, A.
CORPORATE SOURCE: Agricultural Biotechnol. Cent., Inst. Animal Scis., Godollo, H-2101, Hung.
SOURCE: Novenyvedelem (Budapest) (1996), 32(8), 389-400
CODEN: NVVDAW; ISSN: 0133-0829
PUBLISHER: Agroinform Kiado es Nyomda
DOCUMENT TYPE: Journal
LANGUAGE: Hungarian

AB The aim of this work was the setup, optimization, and validation of direct, competitive ELISA tests for detn. of Fusarium mycotoxins (T-2 and F-2) based on **monoclonal antibodies**. The ELISA test was applied for quant. detn. of mycotoxins in different cereals in food and feedstuffs. Among the several extn. solvents tried, the 89% acetonitrile/10 part 0.5% KCl/1 part 6% sulfuric acid were chosen. The exts. can be used without further cleanup in the ELISA test. The mean recoveries from cereals infected with 100-2000 ng/g T-2 and 50-500 ng/g F-2 were 85% and 91%, resp. Detection limit for T-2 is 50 ng/g, that of F-2 is 25 ng/g. The reagent kits named Toxiklon T-2 and Toxiklon zearalenone have been commercialized. The kits are flexible.

IT **21259-20-1**, T-2 Toxin

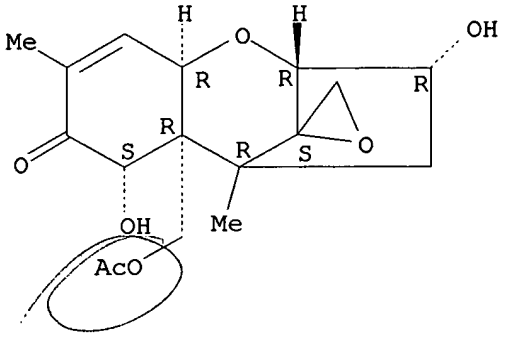
RL: ANT (Analyte); ANST (Analytical study)
(**immunodiagnostics** for mycotoxin detn.)
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 12 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1995:591721 HCAPLUS
DOCUMENT NUMBER: 122:313151
TITLE: Production of **Monoclonal Antibodies** for the Specific Detection of Deoxynivalenol and 15-Acetyldeoxynivalenol by ELISA
AUTHOR(S): Sinha, Ramesh C.; Savard, Marc E.; Lau, Rhoda
CORPORATE SOURCE: Plant Research Centre, Agriculture Canada, Ottawa, ON, K1A 0C6, Can.
SOURCE: Journal of Agricultural and Food Chemistry (1995), 43(6), 1740-4
CODEN: JAFCAU; ISSN: 0021-8561
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB **Monoclonal antibodies** (MABs) against the mycotoxin deoxynivalenol (DON) were produced using an **immunogen** consisting of DON conjugated to **bovine serum** albumin (**BSA**) through its 15-hydroxyl group (15-DON-**BSA**). From 80 hybridomas, the four best stabilized hybridoma cell lines secreting anti-DON MABs of subclass IgG1 were used to prep. ascites in mice. The MABs purified from ascites were used to detect DON by direct competitive ELISA. The MABs were very specific to 15-acetyl-DON and DON but had negligible binding to 3-acetyl-DON, T-2 toxin, sambucinol, and neosolaniol. The effective range of detection was 0.05-20 .mu.g/mL of DON or 15-acetyl-DON. These **antibodies** also showed a high stability toward grain exts. contg. up to 40% methanol.
IT **88337-96-6**, 15-Acetyldeoxynivalenol
RL: ANT (Analyte); POL (Pollutant); ANST (Analytical study); OCCU (Occurrence)
(prodn. of **monoclonal antibodies** for the specific detection of deoxynivalenol and 15-acetyldeoxynivalenol by ELISA)
RN 88337-96-6 HCAPLUS
CN Trichothec-9-en-8-one, 15-(acetyloxy)-12,13-epoxy-3,7-dihydroxy-, (3.alpha.,7.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



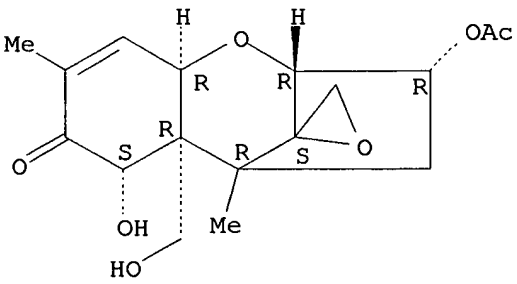
L41 ANSWER 13 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1994:679172 HCAPLUS
DOCUMENT NUMBER: 121:279172
TITLE: Food quality on the farm: **immunological** detection of mycotoxins in New Zealand pastoral agriculture
AUTHOR(S): Garthwaite, Ian; Sprosen, Jan; Briggs, Lyn; Collin, Roger; Towers, Neale
CORPORATE SOURCE: Fungal Plant Toxin Group, Ruakura Agric. Cent., Hamilton, N. Z.
SOURCE: Food and Agricultural Immunology (1994), 6(2), 123-9
CODEN: FAIMEZ; ISSN: 0954-0105
PUBLISHER: Carfax
DOCUMENT TYPE: Journal
LANGUAGE: English

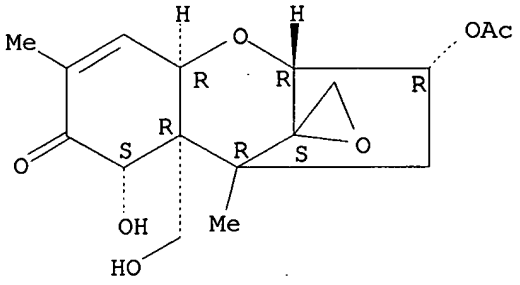
AB The anal. of toxins from herbage samples by conventional means (such as liq. chromatog. and high-pressure liq. chromatog.) is often difficult, slow, and expensive. Consequently, the authors developed **immunoassays** which permit anal. of simple exts. and allow the rapid quantification of mycotoxins in large nos. of herbage samples. Enzyme-linked **immunosorbent** assays using both polyclonal and **monoclonal antibodies** for the measurement of Fusarium toxins (zearalenone and the trichothecenes), sporidesmin, and the indole diterpenoids and ergot alkaloids of endophytic fungi are detailed. Other applications using **immunoassay** techniques are also described.

IT **50722-38-8**, 3-Acetyl deoxynivalenol
RL: ANT (Analyte); ANST (Analytical study)
(mycotoxins detn. in pasture feeds by ELISA)

RN 50722-38-8 HCAPLUS
CN Trichothec-9-en-8-one, 3-(acetyloxy)-12,13-epoxy-7,15-dihydroxy-, (3.alpha.,7.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



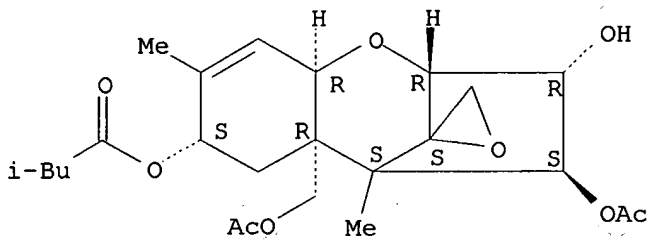


L41 ANSWER 14 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1994:161902 HCAPLUS
DOCUMENT NUMBER: 120:161902
TITLE: **Monoclonal antibody**-based enzyme-linked **immunosorbent** assay of Fusarium T-2 and zearalenone toxins in cereals
AUTHOR(S): Barna-Vetro, Ildiko; Gyongyosi, Agnes; Solti, Laszlo
CORPORATE SOURCE: Agric. Biotechnol. Cent., Inst. anim. Sci., Godollo, H-2101, Hung.
SOURCE: Applied and Environmental Microbiology (1994), 60(2), 729-31
CODEN: AEMIDF; ISSN: 0099-2240
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Direct, competitive enzyme-linked **immunosorbent** assays (ELISAs) with **monoclonal antibodies** have been developed for quant. detn. of trichothecene T-2 toxin (T-2), and zearalenone (F-2) from different cereals. Among the several extn. solvents tried, 89% acetonitrile with additives was chosen. The exts. were then used without cleanup in the ELISA. With appropriate diln. of the samples (1:25 or 1:50), the matrix effects caused by lipid and/or protein content of the samples can be diminished to the extent that the assay is no longer impaired. The mean recoveries from cereals infected with 100 to 2000 ng of T-2 and 50 to 500 ng of F-2 per g were 85 and 91%, resp. The measuring range of the T-2 test is 100 to 2000 ng/g, and that of the F-2 test is 25 to 400 ng/g. The mean within-assay and interassay coeffs. of variation of std. curves are both less than 10%. According to recovery results with artificially infected cereals, the authors' tests proved to be suitable for rapid screening of food and feed samples for the presence of T-2 and F-2 toxins.

IT **21259-20-1**, T-2 Toxin
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in cereals by ELISA)
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



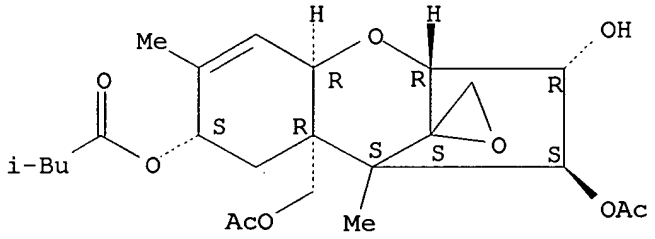
L41 ANSWER 15 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1994:25303 HCAPLUS
DOCUMENT NUMBER: 120:25303
TITLE: Comparative effects of **immunotoxic** chemicals on in vitro proliferate responses of human and rodent lymphocytes
AUTHOR(S): Lang, Dagmar S.; Meier, Kristen L.; Luster, Michael I.
CORPORATE SOURCE: Environ. Immunity Sect., Natl. Inst. Environ. Health Sci., Research Triangle Park, NC, 27709, USA
SOURCE: Fundamental and Applied Toxicology (1993), 21(4), 535-45
CODEN: FAATDF; ISSN: 0272-0590
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In order to detn. the comparability of human and rodent in vitro systems, the direct effects of various therapeutic or environmental chems. on proliferative responses of lymphocytes of mouse, rat, and human origins were examd. and analyzed by a detailed statistical approach. Four compds. of diverse structure and mechanism of action which are known to impair lymphocyte transformation, such as hydroquinone, T-2 toxin, lead nitrate, as well as the widely used **immunosuppressive** drug cyclosporin A, were chosen as model test substances. T cells were stimulated by phytohemagglutinin as well as **monoclonal antibodies** directed at the T cell receptor/CD3 complex, while B cells were activated by the T-independent mitogens, including Staphylococcus aureus cells, Escherichia coli lipopolysaccharide, and Salmonella typhimurium mitogen with specificity for human, mouse, and rat lymphocytes, resp. In almost all cases the chems. altered lymphoproliferative responses in a concn.-related manner in all 3 species. In general, overall similarities in the relative sensitivity of lymphoblastogenesis were obtained when the human dose-response curves were compared to the rodent response curves. Frequent, statistically significant species-dependent discrepancies of the overall response curves between mice and rats were obsd. Large, statistically significant differences were obsd. for inorg. lead, revealing obvious divergences of the effect patterns in all cases, across all species. In this case, rodent species, esp. the rat, were very sensitive to **immunomodulation** by lead, whereas human cells were relatively resistant. It is suggested that direct interspecies comparisons of **immunol.** effects due to chem. treatment in vitro can provide a greater understanding of the relationships between animal and human data, which will improve the confidence of extrapolation from findings in lab. animals to human health risk.

IT **21259-20-1**, T 2 Toxin
RL: BIOL (Biological study)
(lymphocyte proliferation response to, of humans and lab. animals)
RN 21259-20-1 HCAPLUS

CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



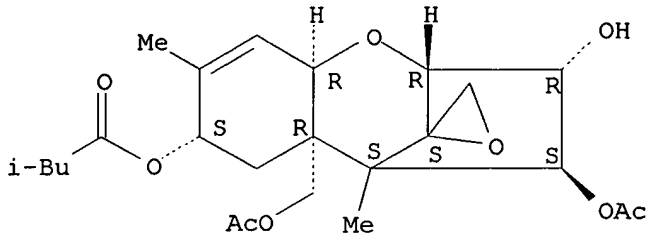
L41 ANSWER 16 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1993:420098 HCAPLUS
DOCUMENT NUMBER: 119:20098
TITLE: Antitumor activity of T-2 toxin-conjugated A7 **monoclonal antibody** (T-2-A7 MoAb) against human colon carcinoma
AUTHOR(S): Kojima, Shuji; Nakamura, Namie; Ueno, Yoshio; Yamaguchi, Toshiharu; Takahashi, Toshio
CORPORATE SOURCE: Res. Inst. Biosci., Sci. Univ. Tokyo, Chiba, Japan
SOURCE: Natural Toxins (1993), 1(4), 209-15
CODEN: NATOEE; ISSN: 1056-9014
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Monoclonal A7 (A7 MoAb), from splenocytes of a mouse immunized against human colorectal carcinoma, was used as a T-2 toxin (T-2) carrier targeting colon cancer. T-2 was converted to T-2 hemiglutarate by glutaric anhydride treatment, and T-2-A7 MoAb conjugates contg. up to 20 T-2 per **antibody** mol. were obtained from the **antibody** and T-2 hemiglutarate activated with N-hydroxysuccinimide. The in vitro cytotoxicity against human colon cancer (LS174T) cells indicated that the conjugates were markedly less toxic than the toxin itself. The **immunoreactivity** was evaluated from the in vitro binding activity of A7 MoAb with LS174T cells, and from the in vivo localization in LS174T-bearing nude mice; it remained essentially intact after conjugation with T-2. The efficacy of the T-2-A7 MoAb conjugate was tested against LS174T-bearing nude mice. The conjugate significantly suppressed the growth of the tumor in comparison with both phosphate-buffered saline and free T-2. These results suggest that the conjugate of T-2 with A7 MoAb might be useful as a selective **immunotoxin** for cancer **immunotherapy**, with less serious side effects that with T-2.

IT **21259-20-1DP**, T-2 Toxin, conjugates with **antibodies** to colorectal carcinoma
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. and antitumor activity of, against human colon carcinoma)

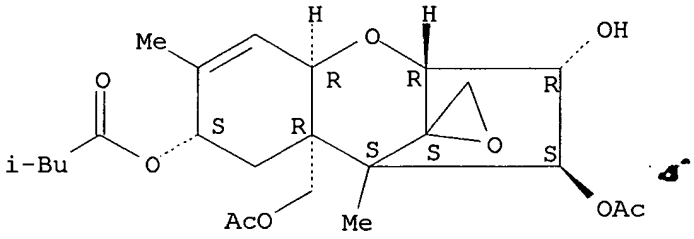
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 17 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1993:141312 HCAPLUS
DOCUMENT NUMBER: 118:141312
TITLE: **Monoclonal antibody** for determination of fusarium T-2 toxin by ELISA
AUTHOR(S): Gyongyosi Horvath, Agnes; Barna-Vetro, Ildiko; Solti, Laszlo
CORPORATE SOURCE: Allabiotechnol. Intez., Allabiotechnol. Intez. Mezogazd. Biotechnol. Kutatokozp., Godollo, Hung.
SOURCE: Allattenyesztes es Takarmanyozas (1992), 41(4), 329-36
CODEN: ATAKDW; ISSN: 0230-1814
DOCUMENT TYPE: Journal
LANGUAGE: Hungarian
AB Spleen cells from mice immunized with Fusarium T 2 toxin hemisuccinate-**bovine serum** albumin, were fused with mouse myeloma cells. The hybrid cells obtained were selected on a hypoxanthine-aminopterine-thymidine medium, followed by ELISA screening. Cells from the colonies with highest **antibody** prodn. were cloned, and the cloned cells were introduced into the abdominal cavity of mice for ascitic fluid prodn. The **antibodies** obtained were IgG1 heavy-chain subclass with .kappa.-type light chain. The **antibody** showed little-to-moderate cross-reaction with related toxins.
IT **21259-20-1**
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, by ELISA)
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

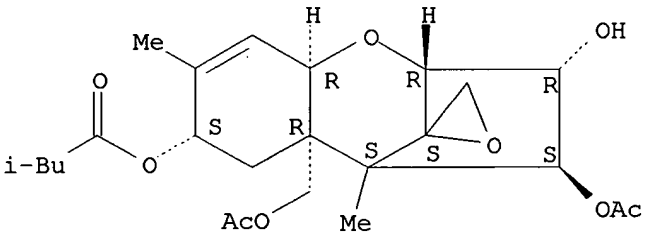
Absolute stereochemistry.



L41 ANSWER 18 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1991:622893 HCAPLUS
DOCUMENT NUMBER: 115:222893

TITLE: Selective antitumor activity of T-2 toxin-**antibody** conjugates
AUTHOR(S): Ohtani, Katsumi; Ueno, Yoshio
CORPORATE SOURCE: Fac. Pharm. Sci., Sci. Univ. Tokyo, Tokyo, 162, Japan
SOURCE: Microb. Toxins Foods Feeds: Cell. Mol. Modes Action, [Proc. Symp.] (1990), Meeting Date 1988, 403-9. Editor(s): Pohland, Albert E.; Dowell, Vulus R., Jr.; Richard, John L. Plenum: New York, N. Y. CODEN: 57HZAK
DOCUMENT TYPE: Conference
LANGUAGE: English
AB Conjugates of T-2 toxin (produced by Fusarium species) with **monoclonal antibodies** to EL-4 thymoma cells inhibited the growth of EL-4 cells both in vitro and in mice.
IT **21259-20-1D, monoclonal antibody** conjugates
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(neoplasm inhibition by)
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



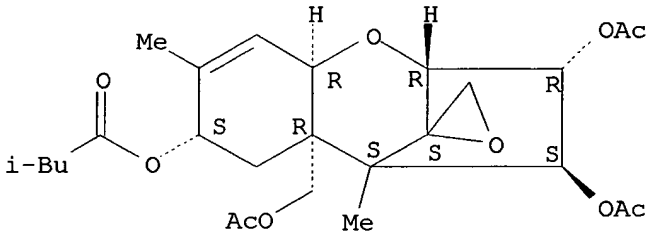
L41 ANSWER 19 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1991:443910 HCAPLUS
DOCUMENT NUMBER: 115:43910
TITLE: Structure/function studies of T-2 mycotoxin with a **monoclonal antibody**
AUTHOR(S): Chanh, Tran C.; Hewetson, John F.
CORPORATE SOURCE: Dep. Virol. Immunol., Southwest Found. Biomed. Res., San Antonio, TX, USA
SOURCE: Immunopharmacology (1991), 21(2), 83-9 CODEN: IMMUDP; ISSN: 0162-3109
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A BALB/C murine **monoclonal antibody** (mAb) specific for the trichothecene mycotoxin T-2 was generated. The anti-T-2 **antibody**, designated HD11, can detect T-2 in the nanogram range employing an enzyme-linked **immuno**-sorbent assay. The HD11 **antibody** at 1 .mu.g/mL completely protected against the T-2-induced cytotoxicity of the human epidermoid carcinoma cell lines Hep-2 and KB. Fine specificity anal. was performed using 10 structurally related T-2 metabolites (I, R1 and R2 = H, OH, OAc; R3 = OH, OAc; R4 = H, OH; R5 = H, OH, O2CCH2CHMe2) to inhibit the specific binding of HD11 to

T-2 mycotoxin. The results suggest a binding specificity of the protective HD11 **antibody** for the bulky hydrophobic alkyl at R5 and the Ac at R2 and R3 or the T-2 mycotoxin mol. HD11 anti-T-2 mAb, which bound to the T-2 metabolite, acetyl T-2 I (R1-R3 = OAc; R4 = H; R5 = O2CCH2CHMe2), efficiently neutralized its in vitro cytotoxicity. On the other hand, the cytotoxicity of the T-2 metabolites, neosalaniol and 3' OH HT-2, both of which lack the alkyl at R5 and which did not bind to HD11, was unaffected by HD11.

IT **21259-21-2 26934-87-2 98813-17-3**
RL: BIOL (Biological study)
(as mycotoxin T-2 metabolite, structure-function studies of, using **monoclonal antibody**)

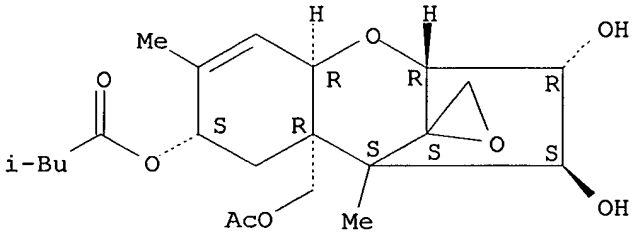
RN 21259-21-2 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 3,4,15-triacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



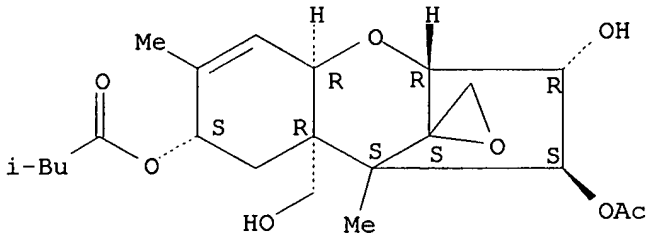
RN 26934-87-2 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 15-acetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



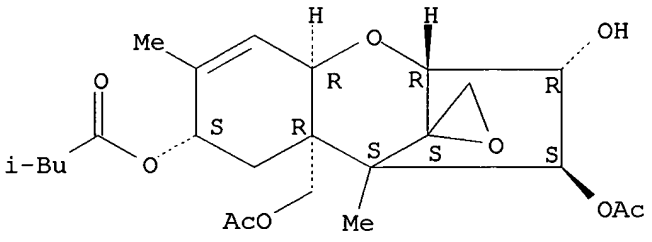
RN 98813-17-3 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4-acetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



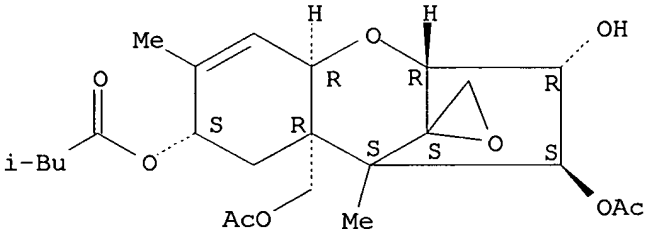
IT **21259-20-1**, T-2 Mycotoxin **21259-20-1D**, T-2 Mycotoxin, metabolites
RL: BIOL (Biological study)
(structure-function studies of, using **monoclonal antibody**)
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

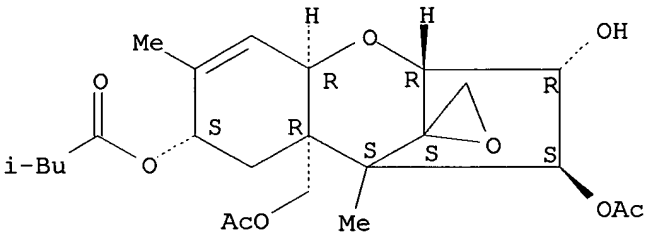
Absolute stereochemistry.



L41 ANSWER 20 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1991:402568 HCAPLUS
DOCUMENT NUMBER: 115:2568
TITLE: Anti-idiotype-based vaccines against biological toxins
AUTHOR(S): Chanh, Tran C.; Siwak, Edward B.; Hewetson, John F.
CORPORATE SOURCE: Dep. Virol. Immunol., Southwest Found. Biomed. Res., San Antonio, TX, 78284, USA
SOURCE: Toxicology and Applied Pharmacology (1991), 108(2), 183-93

CODEN: TXAPA9; ISSN: 0041-008X
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review with 33 refs. Biol. toxins produced by living organisms represent 1 of the major sources of contamination of stored grain and agricultural products, and other food sources. The majority of these biol. toxins are highly lethal, nonproteinaceous, low-mol.-wt. chem. compds. which exert their potent toxicity through a variety of mechanisms. Because of their small size, they generally do not induce a significantly high affinity protective **antibody** response upon toxin exposure, even when conjugated to large protein carriers which enhance their ummunogenicity. Moreover, the very toxic nature of biol. toxins precludes their use as **immunogens** in the induction of protective immunity. To circumvent this difficulty, an attempt was made to develop **antibody** (anti-idiotype)-based vaccines against a protein synthesis inhibitor, the trichothecene mycotoxin T-2, and the Na channel blockers tetrodotoxin and saxitoxin. Protective **monoclonal** antitoxin **antibodies** were first generated and then used to induce specific **monoclonal** anti-idiotype **antibodies**. Specific anti-idiotype **antibodies** were assessed for their ability to induce in vivo protective immunity against toxicity.
IT **21259-20-1**, T2 Toxin
RL: BIOL (Biological study)
(anti-idiotype-based vaccines against)
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 21 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1991:245598 HCAPLUS
DOCUMENT NUMBER: 114:245598
TITLE: **Immunological** approach to the identification and development of vaccines to various toxins
AUTHOR(S): Chanh, T. C.; Armstrong, D.; Kennedy, R. C.
CORPORATE SOURCE: Southwest Found. Biomed. Res., San Antonio, TX, USA
SOURCE: Report (1990), Order No. AD-A225374, 56 pp. Avail.: NTIS
From: Gov. Rep. Announce. Index (U. S.) 1990, 90(24), Abstr. No. 063,999
DOCUMENT TYPE: Report
LANGUAGE: English
AB **Monoclonal antibodies** of relatively high binding affinity consts. specific for the sodium channel blockers saxitoxin and tetrodotoxin, and the synthesis inhibitor mycotoxin T-2 were generated.

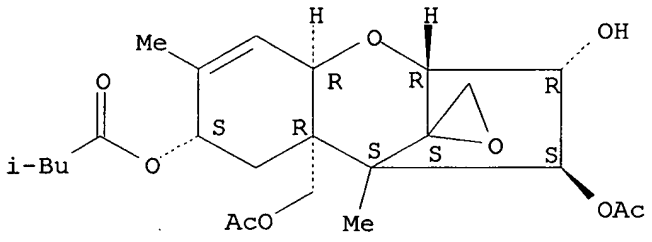
Two **monoclonal antibodies** against saxitoxin and 2 against tetrodotoxin were isolated and shown to inhibit the binding of saxitoxin and tetrodotoxin, resp., to rat brain cell membrane. They were also effective in protecting against the saxitoxin and tetrodotoxin-induced redn. of peripheral nerve action potentials in rat ribial nerve when administered in situ. Polyclonal rabbit and **monoclonal** anti-idiotypic **antibodies** have been generated and characterized. An IgG1k mAb specific for T-2 was also generated. This **antibody**, termed HD11 (IgG1), completely protected the human cell lines Hep-2 and KB against .times.-2-induced cytotoxicity.

IT **21259-20-1**, Mycotoxin T-2
RL: BIOL (Biological study)
(vaccines against, **antibodies** in relation to)

RN 21259-20-1 HCAPLUS

CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 22 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1991:227205 HCAPLUS

DOCUMENT NUMBER: 114:227205

TITLE: Production and characterization of **antibodies** against nivalenol tetraacetate

AUTHOR(S): Wang, Cheng Rui; Chu, Fun S.

CORPORATE SOURCE: Food Res. Inst., Univ. Wisconsin, Madison, WI, 53706, USA

SOURCE: Applied and Environmental Microbiology (1991), 57(4), 1026-30
CODEN: AEMIDF; ISSN: 0099-2240

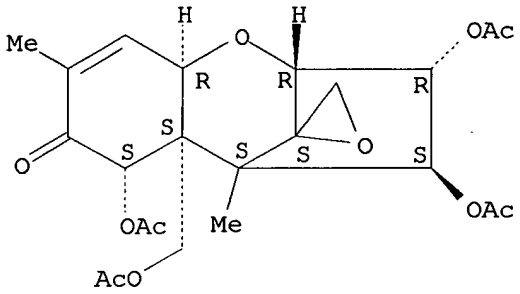
DOCUMENT TYPE: Journal

LANGUAGE: English

AB **Antibody** against nivalenol tetraacetate (tetra-Ac-NIV) was prepd. by immunization of rabbits with triacetyl-15-pimelate-NIV conjugated to **bovine serum** albamin. By using tritiated tetra-Ac-NIV as the test ligand, **antibody** titers were demonstrated as early as 4 wk after immunization. Useful **antibody** for RIA (RIA) of tetra-Ac-NIV was obtained 7 wk after immunization, with one booster injection. Results of competitive RIA revealed that the **antibody** was most specific to tetra-Ac-NIV. The relative cross-reactivity of this **antibody** with tetra-Ac-NIV, deoxynivalenol triacetate, and neosolaniol triacetate was found to be 100, 2.2, and <1, resp. Practically no cross-reaction was found with deoxynivalenol, fusarenon X, and NIV. The detection limit for tetra-Ac-NIV by RIA was about 5.0 ng/mL (0.5 ng per assay). The use of this **antibody** for quantitation of NIV in cereals after

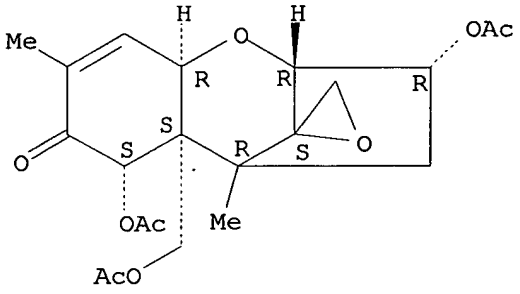
acetylation of sample exts. is proposed.
IT **14287-83-3,** Nivalenol tetraacetate
RL: BIOL (Biological study)
(**monoclonal antibody** specific for, prepn. and characterization of)
RN 14287-83-3 HCAPLUS
CN Trichothec-9-en-8-one, 3,4,7,15-tetrakis(acetyloxy)-12,13-epoxy-, (3.alpha.,4.beta.,7.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **51550-28-8,** Deoxynivalenol triacetate
RL: BIOL (Biological study)
(**monoclonal antibody** to nivalenol cross-reactivity with)
RN 51550-28-8 HCAPLUS
CN Trichothec-9-en-8-one, 3,7,15-tris(acetyloxy)-12,13-epoxy-, (3.alpha.,7.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



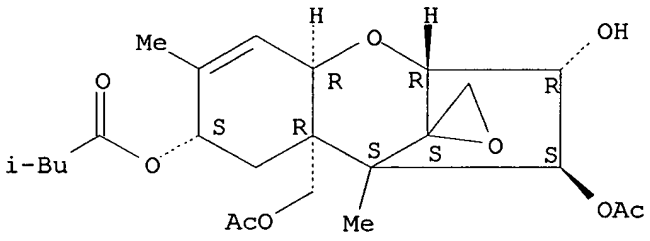
L41 ANSWER 23 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1990:604492 HCAPLUS
DOCUMENT NUMBER: 113:204492
TITLE: Antitumor activity of T-2 toxin-conjugated **monoclonal antibody** to murine thymoma
AUTHOR(S): Ohtani, Katsumi; Murakami, Hiroshi; Shibuya, Osamu; Kawamura, Osamu; Ohi, Keiji; Chiba, Joe; Otokawa, Minoru; Ueno, Yoshio
CORPORATE SOURCE: Fac. Pharm. Sci., Sci. Univ. Tokyo, Tokyo, 162, Japan
SOURCE: Japanese Journal of Experimental Medicine (1990),

60(2), 57-65
CODEN: JJEMAG; ISSN: 0021-5031
DOCUMENT TYPE: Journal
LANGUAGE: English

AB T-2 toxin (T-2), one of the trichothecene mycotoxins produced by various gerera of Fusarium spp., is a potent inhibitor of the syntheses of protein and DNA in mammalian cells. The selective cytotoxicity of T-2 toxin-conjugated anti-EL-4 **monoclonal antibodies** (T-2-mAb) was investigated against murine thymoma EL-4 cells in vitro and in vivo systems. At first T-2 was converted to T-2 hemiglutarate by glutaric anhydride. Then T-2 hemiglutarate was activated to 3-[4-(N-succinimidoxycarbonyl)-butyryl]-T-2 (T-2-G-OSu) by N-hydroxysuccinimide. Thus obtained T-2-G-OSu was conjugated with mAb specific for EL-4 cells. The T-2-mAb markedly inhibited the proliferation of cultured EL-4 cells, but no such cytotoxic effect was obsd. against irrelevant SP2/0 cells. The cytotoxicity of T-2-conjugated normal gamma globulin (T-2-nGG) against EL-4 cells was far less than that of the above T-2-mAb. Ammonium chloride and monensin, inhibitors of lysosomal enzymes, enhanced the cytotoxicity of T-2-mAb. The presence of both 2-deoxyglucose together with sodium azide, inhibitors of energy-dependent reaction, reduced the cytotoxicity of T-2-mAb. Therefore, the selective binding to the target cells followed by an energy-dependent endocytosis and an intracellular liberation of T-2 by hydrolysis may account for the cytotoxicity of the T-2-mAb. In mice pre-transplanted with EL-4 cells, T-2-mAb increased the mean survival time with a direct dosage dependence. The present in vitro and in vivo expts. suggest a possible use of T-2 as an **immunotoxin** for cancer chemotherapy.

IT **21259-20-1D**, T-2 Toxin, **monoclonal antibody** conjugates
RL: BIOL (Biological study)
(thymoma inhibition by)
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 24 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1990:513450 HCAPLUS
DOCUMENT NUMBER: 113:113450
TITLE: Monoclonal anti-idiotype induces protection against the cytotoxicity of the trichothecene mycotoxin T-2
AUTHOR(S): Tran Cong Chanh; Rappocciolo, Giovanna; Hewetson, John F.
CORPORATE SOURCE: Dep. Virol. Immunol., Southwest Found. Biomed. Res., San Antonio, TX, 78284, USA

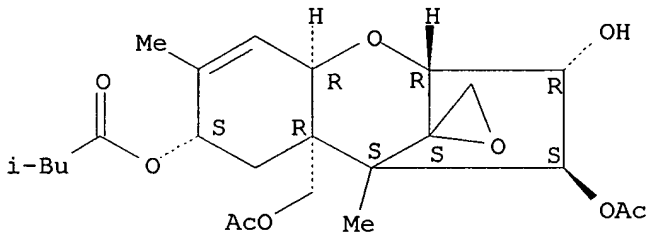
SOURCE: Journal of Immunology (1990), 144(12), 4721-8
CODEN: JOIMA3; ISSN: 0022-1767
DOCUMENT TYPE: Journal
LANGUAGE: English

AB An IgG1 mAb, designated HD11, specific for the trichothecene mycotoxin T-2 and capable of neutralizing its cytotoxicity was used to generate a syngeneic **monoclonal** anti-Id **antibody**. The generated anti-Id mAb, designated DE8, specifically bound to HD11 anti-T-2 mAb, and not to IgG1 mAb of irrelevant specificity or to normal mouse **Ig**. DE8 inhibited the binding of HD11 anti-T-2 to T-2-**BSA**-coated plates, whereas a control anti-Id mAb did not, suggesting recognition of an Id determinant assocd. with the T-2 binding site of HD11. Moreover, the binding of HD11 to DE8 and that of DE8 to HD11 were specifically inhibited by free T-2 mycotoxin. DE8 mAb was efficient in abrogating the protective effect of HD11 in the cytotoxicity of T-2 on the human epidermoid carcinoma cell line Hep-2. In vivo immunization of BALB/c mice with DE8 conjugated to **KLH** induced an anti-T-2 **antibody** titer comparable to that obtained with T-2-**OVA** immunization, whereas immunization with unconjugated DE8 resulted in a lower titered anti-T-2 response. Immunization with DE8-**keyhole** limpet or with unconjugated DE8 induced anti-T-2 **antibody** responses characterized by expression of HD11-like Id and by protection against T-2 cytotoxicity. However, the T-2-**OVA**-induced anti-T-2 response lacked the HD11+ Id and was only partially protective against T-2 cytotoxicity. This demonstrates the use of an anti-Id based vaccine in the in vivo induction of a protective **antibody** response against the cytotoxicity of a nonproteinaceous, small m.w. biol. toxin, whose very toxic nature precludes its use as the **immunogen**.

IT **21259-20-1**
RL: PRP (Properties)
(cytotoxicity of, **monoclonal** antiidiotypic **antibody** protection against, vaccine in relation to)

RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 25 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1990:117472 HCAPLUS
DOCUMENT NUMBER: 112:117472
TITLE: **Monoclonal antibody**-based enzyme linked **immunosorbent** assay of aflatoxin B1, T-2 toxin, and ochratoxin A in barley
AUTHOR(S): Ramakrishna, Nannapaneni; Lacey, John; Candlish, Alan A. G.; Smith, John E.; Goodbrand, Ian A.

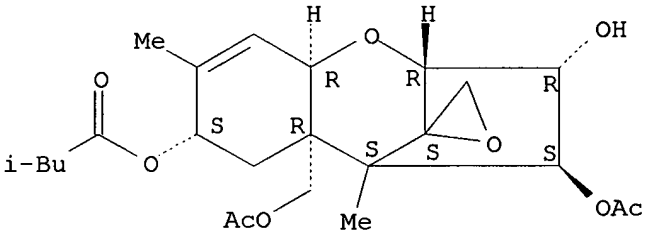
CORPORATE SOURCE: Inst. Arable Crops Res., AFRC, Harpenden/Herts., AL5 2JG, UK
SOURCE: Journal - Association of Official Analytical Chemists (1990), 73(1), 71-6
CODEN: JANCA2; ISSN: 0004-5756
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Aflatoxin B1 (B1), T-2 toxin (T2), and ochratoxin A (OA) were assayed in a single ext. from barley grain by using competitive enzyme linked **immunosorbent** assay (ELISA) with **monoclonal antibodies**. B1 and T2 **monoclonal antibodies** were conjugated to **horseradish** peroxidase for direct competitive ELISA and an indirect competitive ELISA was used for OA detn. The competitive ELISA detected 0.1 ng/mL B1, 10 ng/mL T2, and 1 ng/mL OA. MeCN-0.5% KCl-6% H2SO4 (89:10:1) exts. of barley grain either were dild. 1:10 for direct assay or were subjected to a simple liq.-liq. cleanup procedure to conc. the ext. 10:1 before assay. For cleanup, H2O was added to the MeCN ext. to partition water-sol. interfering substances, and then the mycotoxins were reextd. with CHCl3. The CHCl3 ext. was evapd. to dryness and redissolved in Tris-HCl buffer for ELISA. The mean recoveries from barley spiked with 4-60 ng/g B1, 50-5000 ng/g T2, and 5-500 ng/g OA were 93.8, 80.6, and 95.8%, resp. The mean within-assay, inter-assay, and subsample relative std. deviations by ELISA of barley grain colonized with toxigenic fungi were <12% for B1 and OA but as high as 17% for T2.

IT **21259-20-1**, T-2 Toxin
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in barley by ELISA with **monoclonal antibodies**)

RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 26 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1990:31759 HCAPLUS
DOCUMENT NUMBER: 112:31759
TITLE: A **monoclonal antibody**-based enzyme **immunoassay** for the detection of T-2 toxin at picogram levels
AUTHOR(S): Hack, R.; Maertlbauer, E.; Terplan, G.
CORPORATE SOURCE: Vet. Fac., Univ. Munich, Munich, 8000/22, Fed. Rep. Ger.
SOURCE: Letters in Applied Microbiology (1989), 9(4), 133-5
CODEN: LAMIE7; ISSN: 0266-8254
DOCUMENT TYPE: Journal

LANGUAGE: English

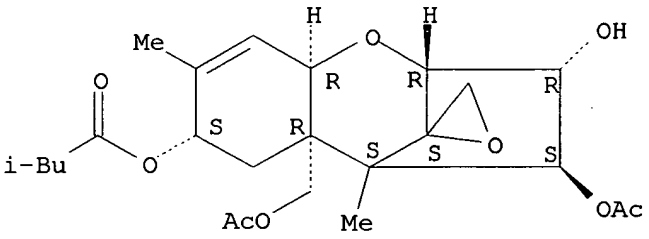
AB Thirteen **monoclonal antibodies** reactive with HT 2 toxin were prepd. by using a HT-2 hemisuccinate coupled to human serum albumin as **antigen** for the immunization of BALB/c mice. In a competitive EIA on a double **antibody** solid phase using HT 2 hemisuccinate coupled to **horseradish** peroxidase as enzyme-linked toxin, all **antibodies** reacted much better with T 2 toxin and acetyl T 2 than with HT 2. Eleven **antibodies** showed almost the same sensitivity and specificity, and one of these, designated 3E2, is extensively described. Its cross-reactivities with HT 2, T 2 toxin, acetyl T 2, iso T 2, T 2 tetraol tetraacetate and T 2 triol were 1.0, 140.2, 161.2, 0.32, 0.14 and 0.016, resp. Two other **antibodies,** designated 2A4 and 2A5, behaved quite differently. The cross-reactivities of **antibody** 2A4 with these toxins were: 1.0, 113.9, 374.4, 1.35, 0.34 and 0.023, resp.; for **antibody** 2A5 they were 1.0, 46.1, 155.4, 8.31, 0.9 and 0.08, resp. All **antibodies** proved to be IgG1. By using the **antibody** 3E2 a highly sensitive and very specific enzyme **immunoassay** for the detection of T 2 toxin was developed. The detection limit for T 2 toxin was 5 pg/mL (0.25 pg/assay).

IT **21259-20-1,** Toxin T 2
RL: BIOL (Biological study)
(**monoclonal antibodies** IgG1 against toxin HT 2 in EIA of)

RN 21259-20-1 HCAPLUS

CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

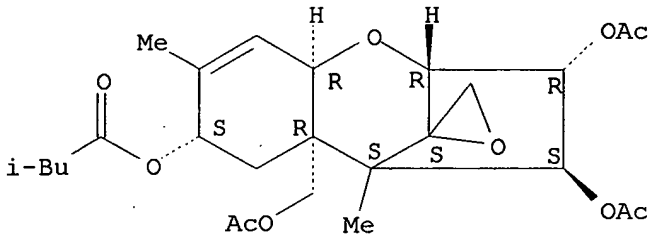


IT **21259-21-2,** Acetyl toxin T-2 **26934-87-2,** Toxin HT-2 **114753-65-0,** Isotoxin T 2
RL: BIOL (Biological study)
(**monoclonal antibodies** IgG1 against toxin HT-2 in EIA of toxin T 2 in relation to)

RN 21259-21-2 HCAPLUS

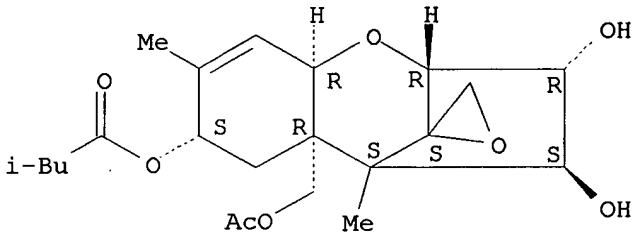
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 3,4,15-triacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



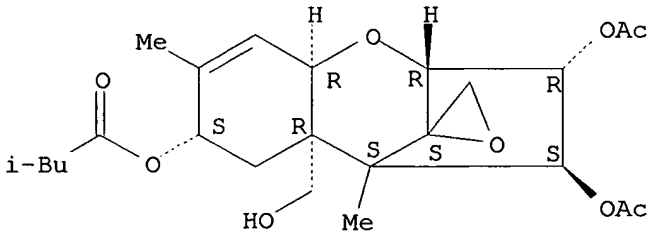
RN 26934-87-2 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 15-acetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 114753-65-0 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 3,4-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 27 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1989:589420 HCAPLUS
DOCUMENT NUMBER: 111:189420
TITLE: Method and test kit for detecting trichothecene mycotoxin T-2 using novel **monoclonal antibodies**
INVENTOR(S): Hart, L. Patrick; Pestka, James J.; Gendloff, Elie H.
PATENT ASSIGNEE(S): Neogen Corp., USA
SOURCE: U.S., 7 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4772551	A	19880920	US 1985-813499	19851226

PRIORITY APPLN. INFO.: US 1985-813499 19851226

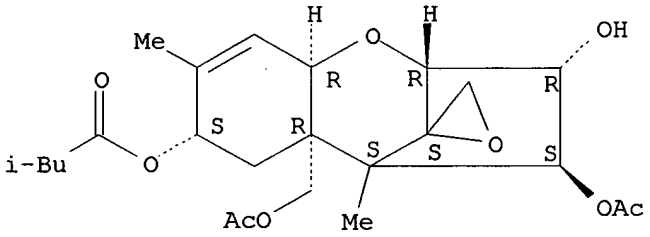
AB **Monoclonal antibodies** to trichothecene mycotoxin T-2 are produced by the hybridoma method and used in a test kit and **immunoassay** for T-2. BALB/C mice were immunized s.c. with T-2 hemisuccinate-**bovine serum** albumin conjugate (0.5-1 mg/mL saline), the spleen cells were fused with myeloma cells, and hybrid cells producing the desired **antibody** were cloned and selected. The T-2 **monoclonal antibody** was used in an ELISA for T-2 toxin in samples of wheat and corn in which the grains were ground, extd. with MeOH:H2O (40:60), and filtered, and the filtrate was mixed with T-2-**horseradish** peroxidase conjugate and incubated 10 min in T-2 **monoclonal antibody**-coated microtiter wells. Enzyme was detected with ABTS.

IT **21259-20-1**, Mycotoxin T-2
RL: BIOL (Biological study)
(detection of and **monoclonal antibody** to)

RN 21259-20-1 HCAPLUS

CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

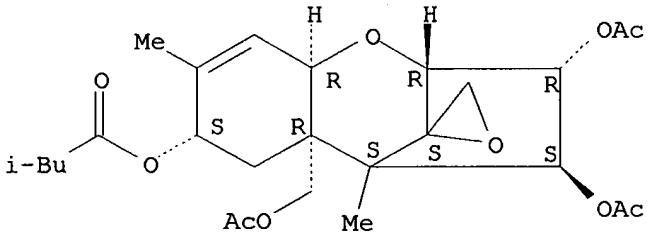


IT **21259-21-2 26934-87-2**, Mycotoxin HT-2 **69999-76-4**
RL: BIOL (Biological study)
(**monoclonal antibody** to mycotoxin T-2 response to)

RN 21259-21-2 HCAPLUS

CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 3,4,15-triacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

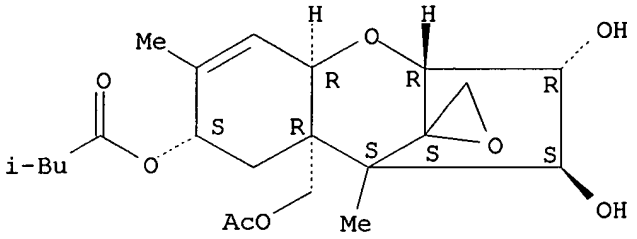


RN 26934-87-2 HCAPLUS

CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 15-acetate

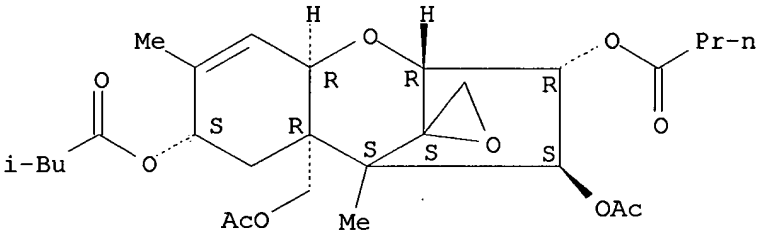
8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 69999-76-4 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 3-butanoate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

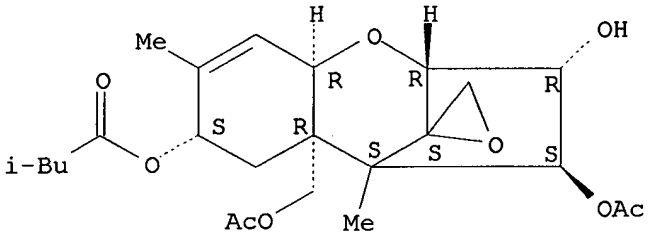
Absolute stereochemistry.



L41 ANSWER 28 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1989:568810 HCAPLUS
DOCUMENT NUMBER: 111:168810
TITLE: Anti-idiotypic **antibodies** against a **monoclonal antibody** specific for the trichothecene mycotoxin T-2
AUTHOR(S): Chanh, Tran C.; Huot, Rachel I.; Schick, Michael R.; Hewetson, John F.
CORPORATE SOURCE: Dep. Virol. Immunol., Southwest Found. Biomed. Res., San Antonio, TX, 78284, USA
SOURCE: Toxicology and Applied Pharmacology (1989), 100(2), 201-7
CODEN: TXAPA9; ISSN: 0041-008X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A BALB/c murine **monoclonal antibody** against mycotoxin T 2 was generated. The **antibody**, designated HD11, specifically bound T 2 mycotoxin. The binding of HD11 to T 2 conjugated to **bovine serum** albumin was inhibited by free T 2 toxin but not by the water-sol. heterocyclic guanidines saxitoxin and tetrodotoxin. The T 2 detection limit in ELISA with HD11 was in the nanogram range. The in vitro cytotoxicity of T 2, as measured by the inhibition of radiolabeled leucine uptake of the human epidermoid carcinoma Hep-2 and KB cell lines, was completely reversed by the addn. of HD11. Rabbit antiidiotypic **antibodies** specific for HD11 were generated and characterized.

IT **21259-20-1**, Mycotoxin T-2
RL: BIOL (Biological study)
(antiidiotypic **antibodies** against **monoclonal antibodies** against, ELISA of T 2 toxin in relation to)
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 29 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1989:512038 HCAPLUS
DOCUMENT NUMBER: 111:112038
TITLE: Repetitive hit-and-run **immunoassay** and stable support-analyte conjugates, and application to T-2 toxin detection
INVENTOR(S): Giese, Roger W.; Warden, Beverly; Kariman, Allam; Ehrat, Markus; Cecchini, Douglas J.; Sentissi, Abdellah
PATENT ASSIGNEE(S): Northeastern University, USA
SOURCE: U.S., 28 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

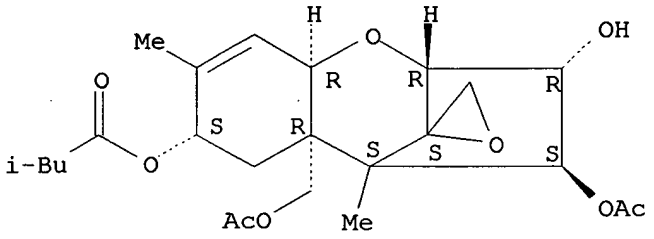
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4801726	A	19890131	US 1986-852144	19860415

PRIORITY APPLN. INFO.: US 1986-852144 19860415
OTHER SOURCE(S): MARPAT 111:112038
AB A repetitive **immunoassay** anal. method for detn. of a free analyte is carried out by loading an affinity column of covalently bound analyte with tagged **antibody**, passing a continuous aq. stream of carrier liq. over the column, introducing an aliquot of a sample to be analyzed for free analyte into the carrier stream upstream of the column, and monitoring the eluting carrier stream for a signal spike resulting from the presence of tagged **antibody** material released from the column by the application of free analyte in the anal. sample. A Supelclean filtration column was packed with T-2 mycotoxin-adipic acid hydrazide-agarose affinity gel (prepn. given), equilibrated with 0.01 M Tris-HCl (pH 7.5), and loaded with the fluorescein conjugate of anti-T-2 **monoclonal antibody** Fab' fragment. The column was washed with buffer until the fluorescence signal returned to preloading levels. Samples of T-2 in buffer were applied to the column. Once the

sample completely entered the gel bed the flow was stopped for 5 min. After the incubation period, flow was resumed and the fluorescence signal of released conjugate was measured. T-2 to 1 ng could be measured.

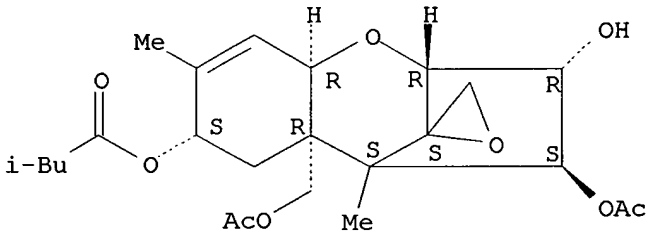
IT **21259-20-1**, T-2 Mycotoxin
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, by support-bound analyte and labeled **antibody** affinity chromatog. in analyte **immunoassay**, immobilized T-2 mycotoxin for)
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **21259-20-1DP**, T-2 Mycotoxin, adipic acid hydrazide-agarose gel reaction products
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, for support-bound analyte and labeled **antibody** affinity chromatog. in analyte **immunoassay**)
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 30 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1989:229768 HCAPLUS
DOCUMENT NUMBER: 110:229768
TITLE: A **monoclonal antibody** to the trichothecene mycotoxin diacetoxyscirpenol
AUTHOR(S): Hack, R.; Klaffer, U.; Terplan, G.
CORPORATE SOURCE: Vet. Fac., Univ. Munich, Munich, 8000/22, Fed. Rep. Ger.
SOURCE: Letters in Applied Microbiology (1989), 8(2), 71-5
CODEN: LAMIE7; ISSN: 0266-8254
DOCUMENT TYPE: Journal

LANGUAGE: English

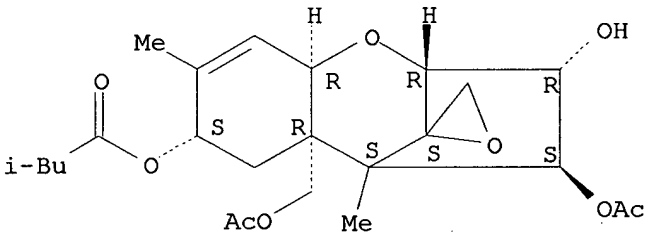
AB A **monoclonal antibody** to the trichothecene mycotoxin diacetoxyscirpenol (DAS) was produced by a hybridoma, designated 2E5. It secreted **antibody** of the IgGl subclass; by using this **antibody** the detection limit for DAS was 16 ng/mL in a direct enzyme **immunoassay** on a double **antibody** solid phase. The relative cross-reactivities with 3.alpha.-acetyl-DAS, diacetylverrucarol, neosolaniol, T-2 tetrol tetraacetate, fusarenon X, T-2 toxin, and HT-2 were 2224.5, 53.7, 13.9, 9.2, 6.4, 1.7, 0.6, and 0.35%, resp.

IT **21259-20-1**, T-2 Toxin **23255-69-8**, Fusarenon X **26934-87-2**, HT-2
RL: BIOL (Biological study)
(**monoclonal antibody** to diacetoxyscirpenol cross-reactivity with)

RN 21259-20-1 HCAPLUS

CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

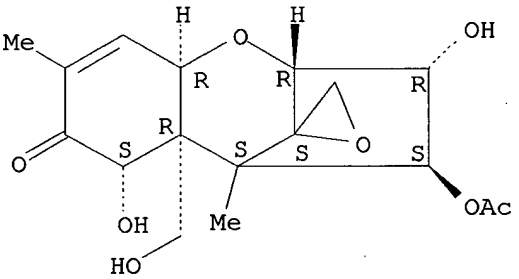
Absolute stereochemistry.



RN 23255-69-8 HCAPLUS

CN Trichothec-9-en-8-one, 4-(acetyloxy)-12,13-epoxy-3,7,15-trihydroxy-, (3.alpha.,4.beta.,7.alpha.)- (9CI) (CA INDEX NAME)

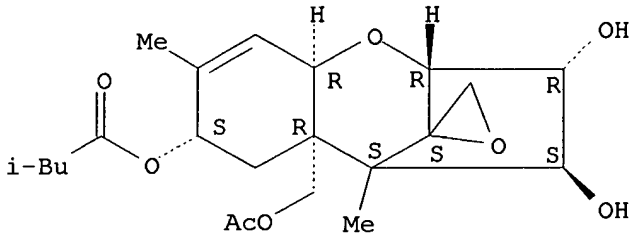
Absolute stereochemistry.



RN 26934-87-2 HCAPLUS

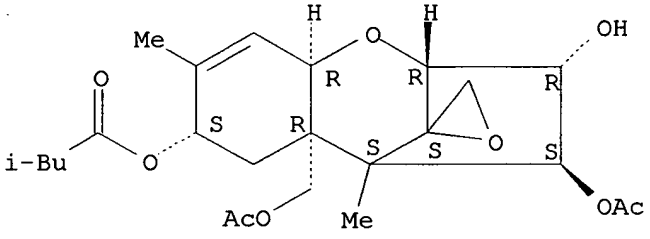
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 15-acetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 31 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1989:171854 HCAPLUS
DOCUMENT NUMBER: 110:171854
TITLE: Studies on chemical analysis of mycotoxin. XIX. Enzyme **immunoassay** of T-2 toxin in foods
AUTHOR(S): Isohata, Etsuko; Toyoda, Masatake; Saito, Yukio
CORPORATE SOURCE: Natl. Inst. Hyg. Sci., Tokyo, 158, Japan
SOURCE: Eisei Shikensho Hokoku (1988), (106), 117-20
CODEN: ESKHA5; ISSN: 0077-4715
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
AB T-2 toxin enzyme **immunoassay** (EIA) test kits with T-2 toxin **monoclonal antibody**-coated plates were evaluated by recovery tests with several food types. T-2 toxin levels .gtoreq.15 ppb could be detected in artificially contaminated foods by EIA within 1 h (without prepurifn.). The simplicity, sensitivity, and specificity of the EIA should make it the preferred method for monitoring T-2 toxin in foods.
IT **21259-20-1**, T-2 Toxin
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in food by enzyme **immunoassay**)
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 32 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1989:90279 HCAPLUS
DOCUMENT NUMBER: 110:90279
TITLE: Production and characterization of a **monoclonal antibody** cross-reactive with most group A trichothecenes
AUTHOR(S): Fan, T. S. L.; Schubring, S. L.; Wei, R. D.; Chu, F. S.
CORPORATE SOURCE: Food Res. Inst., Univ. Wisconsin, Madison, WI, 53706,

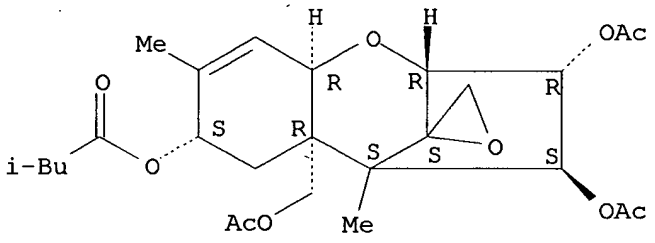
USA
SOURCE: Applied and Environmental Microbiology (1988), 54(12), 2959-63
CODEN: AEMIDF; ISSN: 0099-2240
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A **monoclonal antibody** cross-reactive with most group A trichothecenes was produced by fusion of P3/NS-1/1-AG4-1 myeloma cells with spleen cells isolated from a BALB/c mouse that had been immunized with 3-acetylneosolaniolhemisuccinate conjugated to **bovine serum** albumin. One stable clone, H159B1D5, which produced **monoclonal antibody** that bound with both T 2 toxin and diacetoxyscirpenol (DAS) was obtained after subcloning. ELISA revealed that the **antibody** belongs to the IgG1 (kappa chain) isotype and had binding consts. of 2.81 .times. 109, 1.05 .times. 109, and 1.57 .times. 108 L per mol for T 2 tetraol tetraacetate, T 2 toxin, and DAS, resp. The relative cross-reactivities of the **antibody** with T 2 tetraol tetraacetate, T 2 toxin, and DAS were 200, 100, and 20, resp., with tritiated T 2 toxin as the marker ligand. The relative cross-reactivities for the above toxins were 667, 100, and 73, resp., with tritiated DAS as the marker ligand. No cross-reaction with HT 2 and deoxynivalenol triacetate was obsd. in either system. By using this **monoclonal antibody**, an indirect ELISA for anal. of T 2 toxin was also developed. The linear portion of the std. curve for anal. of T 2 toxin in each anal. by RIA and ELISA was in the range 0.1-2 ng and 0.05-1.0 ng, resp.

IT **21259-21-2 26934-87-2**, HT 2 toxin **51550-28-8**, Deoxynivalenol triacetate
RL: BIOL (Biological study)
(**monoclonal antibody** cross-reactivity in relation to)

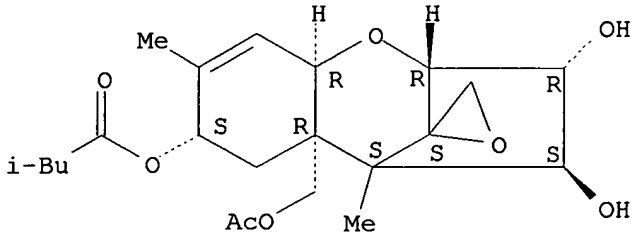
RN 21259-21-2 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 3,4,15-triacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



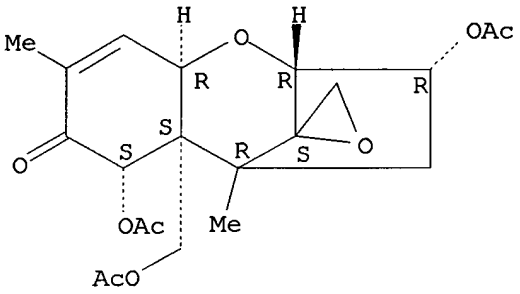
RN 26934-87-2 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 15-acetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



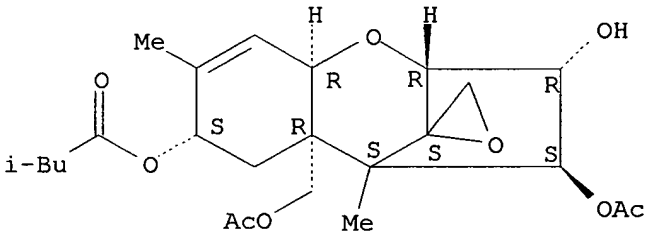
RN 51550-28-8 HCAPLUS
CN Trichothec-9-en-8-one, 3,7,15-tris(acetyloxy)-12,13-epoxy-, (3.alpha.,7.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **21259-20-1**, T 2 Toxin
RL: BIOL (Biological study)
(**monoclonal antibody** to, prodn. and characterization of, detn. in relation to)
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 33 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1989:52419 HCAPLUS
DOCUMENT NUMBER: 110:52419
TITLE: Hit-and-run **immunoassay** for T-2 toxin
AUTHOR(S): Giese, R. W.; Allam, K. I.; Cecchini, D. J.; Ehrat, M.; Guan, K. L.
CORPORATE SOURCE: Barnett Inst. Chem. Anal. Mater. Sci., Northeast. Univ., Boston, MA, USA

SOURCE: Report (1988), CONTRIB-307, ARO-24152.6-LS; Order No. AD-A191937, 50 pp. Avail.: NTIS
From: Gov. Rep. Announce. Index (U. S.) 1988, 88(16), Abstr. No. 842,075
DOCUMENT TYPE: Report
LANGUAGE: English

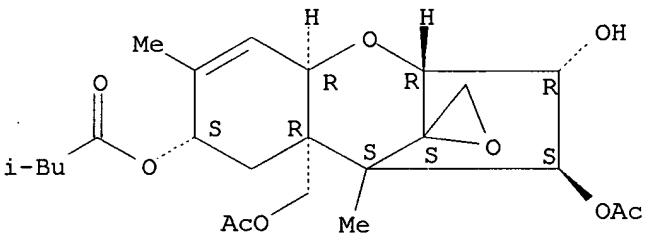
AB A sensitive and accurate **immunoassay** is described for T 2 toxin anal. in environment samples. A **monoclonal antibody** for T-2 toxin is converted to a Fab'-fluorescein deriv. The latter is specifically complexed onto a T-2 agarose gel. Fifteen successive doses of T-2 ranging from 1 to 50 ng are then repetitively and linearly detected using a column packed with a small vol. (0.2 mL) of this gel without recharging with Fab'-fluorescein. For these assays the effluent from the column is monitored with a spectrofluorometer.

IT **21259-20-1**, T-2 Toxin
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in environmental samples by **immunoassay**)

RN 21259-20-1 HCAPLUS

CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



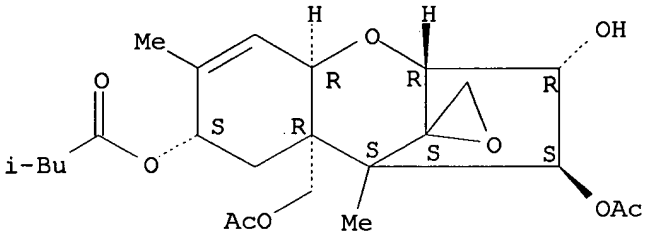
L41 ANSWER 34 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1988:624110 HCAPLUS
DOCUMENT NUMBER: 109:224110
TITLE: A sensitive enzyme-linked **immunosorbent** assay for detection of T-2 toxin with **monoclonal antibodies**
AUTHOR(S): Chiba, Joe; Kawamura, Osamu; Kajii, Hiroshi; Otani, Katsumi; Nagayama, Satoshi; Ueno, Yoshio
CORPORATE SOURCE: Dep. Pathol., Natl. Inst. Health, Tokyo, 141, Japan
SOURCE: Food Additives & Contaminants (1988), 5(4), 629-39
CODEN: FACOEB; ISSN: 0265-203X
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Six **monoclonal antibodies** (mAbs, T-2.1, 2, 3, 4, 5, and 6) which react with a trichothecene mycotoxin, T 2 toxin (T-2), were prepd. All **antibodies** specifically reacted with T-2 but less (0.5% of T-2) with the metabolites such as HT 2 toxin and 3'-hydroxy-T 2 toxin. Significant but less than 0.02% cross-reactivity was obsd. with T 2 triol, 3'-hydroxy-HT 2 toxin, and neosolaniol. No significant reaction with other trichothecenes such as deoxynivalenol, nivalenol, fusarenon-X, crotocin, or roridin A was obsd. The least detectable amt. of T-2 with the best mAb T-2.1 was 2.5 pg T-2 per assay. This specific and highly sensitive assay for T-2 was applied for the quantitation of T-2 in wheat

flour spiked with mycotoxin in combination with a simple extn. procedure.

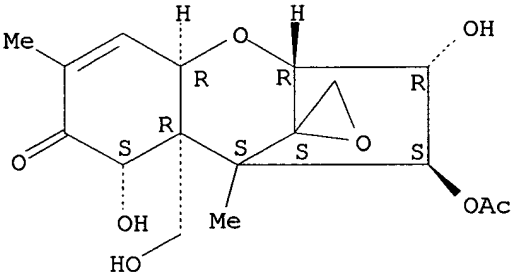
IT **21259-20-1**, Toxin T-2
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in wheat flour, by ELISA, **monoclonal antibodies** in relation to)
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



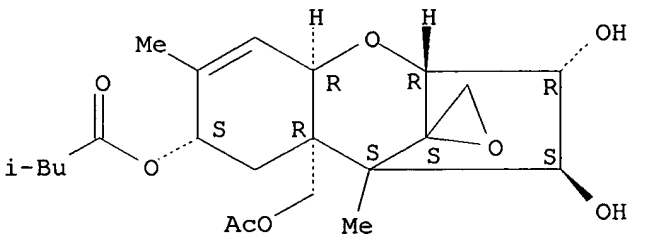
IT **23255-69-8**, Fusarenon-X **26934-87-2**, HT-2 toxin
RL: BIOL (Biological study)
(**monoclonal antibodies** to toxin T-2 cross reactivity with)
RN 23255-69-8 HCAPLUS
CN Trichothec-9-en-8-one, 4-(acetyloxy)-12,13-epoxy-3,7,15-trihydroxy-, (3.alpha.,4.beta.,7.alpha.)- (9CI) (CA INDEX NAME)

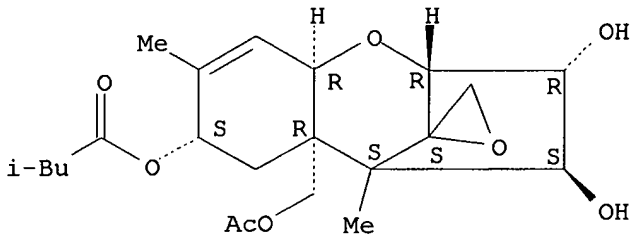
Absolute stereochemistry.



RN 26934-87-2 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 15-acetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



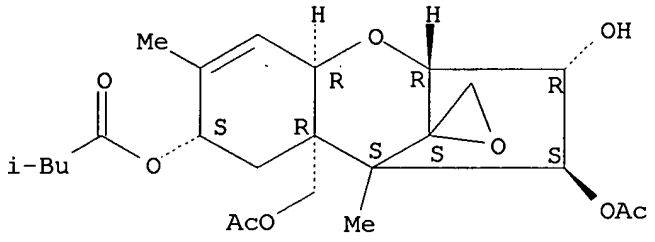


L41 ANSWER 35 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1988:487817 HCAPLUS
DOCUMENT NUMBER: 109:87817
TITLE: Production and characterization of a **monoclonal antibody** to the trichothecene mycotoxin diacetoxyscirpenol
AUTHOR(S): Pauly, Josef Urban; Bitter-Suermann, Dieter; Dose, Klaus
CORPORATE SOURCE: Inst. Med. Mikrobiol., Johannes Gutenberg-Univ., Mainz, Fed. Rep. Ger.
SOURCE: Biological Chemistry Hoppe-Seyler (1988), 369(6), 487-92
CODEN: BCHSEI; ISSN: 0177-3593
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A **monoclonal antibody** was obtained by the fusion of mouse myeloma cells with splenocytes isolated from Balb/c mice, which had been immunized with diacetoxyscirpenol-hemiglutarate (DAS-hemiglutarate) and verrucarol-hemiglutarates covalently bound to ethylenediamine-modified **bovine serum** albumin. The anti-DAS-**antibody** that could be induced was of the IgM type with .kappa.-chains. The titer of the **monoclonal** anti-DAS-**antibody** in ascites fluid obtained from mice injected with the selected cell line was much higher than those of conventional antisera. An ELISA based on the competitive binding principle in which the **antibody** was applied had a sensitivity of 1 ng DAS/assay. The relative cross-reactivity of the **monoclonal antibody** in the CI-ELISA with the related trichothecenes such as triacetoxyscirpenol, 15-monoacetoxyscirpenol, diacetylverrucarol, 4-monoacetoxyscirpenol, and scirpentriol were 1.8, 0.8, 0.15, 0.02, and <0.001, resp. The trichothecenes verrucarol, T 2 toxin, T 2 tetraol, deoxynivalenol, 3-acetyldeoxynivalenol, and trichothecin showed no cross-reactivity.

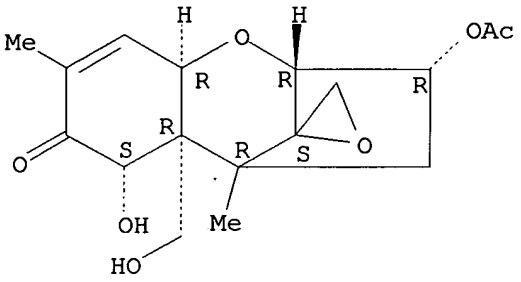
IT **21259-20-1**, Toxin T2 **50722-38-8**, 3-Acetyldeoxynivalenol
RL: BIOL (Biological study)
(trichothecene mycotoxin **monoclonal antibody** cross-reactivity with)
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 50722-38-8 HCAPLUS
CN Trichothec-9-en-8-one, 3-(acetyloxy)-12,13-epoxy-7,15-dihydroxy-, (3.alpha.,7.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 36 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1988:433710 HCAPLUS
DOCUMENT NUMBER: 109:33710
TITLE: Reagent and method for mycotoxin **immunoassay**
INVENTOR(S): Uda, Taizo; Itoh, Yukikatsu; Nishimura, Minoru; Hifumi, Emi; Sudou, Kasumi; Ueno, Yoshio
PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan
SOURCE: Fr. Demande, 28 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2601781	A1	19880122	FR 1987-10038	19870716
FR 2601781	B1	19930212		
JP 63153468	A2	19880625	JP 1987-149258	19870617
GB 2193809	A1	19880217	GB 1987-16804	19870716
CN 87105154	A	19880203	CN 1987-105153	19870717

PRIORITY APPLN. INFO.: JP 1986-167851 19860718
JP 1987-149258 19870617

AB An enzyme-labeled anti-mycotoxin **monoclonal antibody** is used in a competitive **immunoassay** of mycotoxins, e.g. in food products. The enzyme is peroxidase, alk. phosphatase, .beta.-galactosidase, etc. and the mycotoxin is produced by Penicillium, Aspergillus, or Fusarium. Ochratoxin A (OTA) of Aspergillus was detd. by

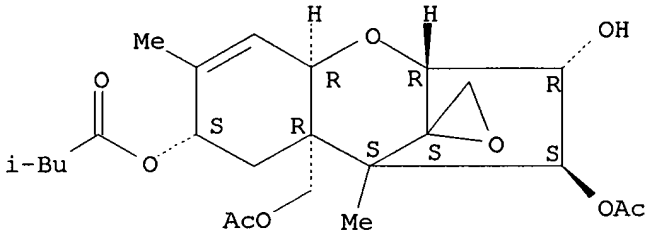
reacting microtiter plates with OTA-**bovine serum** albumin conjugate, blocking unreacted groups with **bovine serum**, incubating with peroxidase-labeled anti-OTA **monoclonal antibody** and OTA sample for 30 min, washing, adding substrate soln. (o-phenylenediamine and H2O), and measuring absorbance at 500 nm after stopping the enzymic reaction with H2SO4. The detn. took .apprx.1 h and 52 pg OTA could be detd.

IT **21259-20-1**
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, by enzyme **immunoassay**)

RN 21259-20-1 HCAPLUS

CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 37 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1988:405339 HCAPLUS

DOCUMENT NUMBER: 109:5339

TITLE: A **monoclonal antibody** to the trichothecene T-2 toxin: screening for the **antibody** by a direct enzyme **immunoassay**

AUTHOR(S): Hack, R.; Maertlbauer, E.; Terplan, G.

CORPORATE SOURCE: Tieraerztl. Fak., Univ. Muenchen, Munich, D-8000/40, Fed. Rep. Ger.

SOURCE: Journal of Veterinary Medicine, Series B (1987), 34(7), 538-44
CODEN: JVMBE9; ISSN: 0931-1793

DOCUMENT TYPE: Journal

LANGUAGE: English

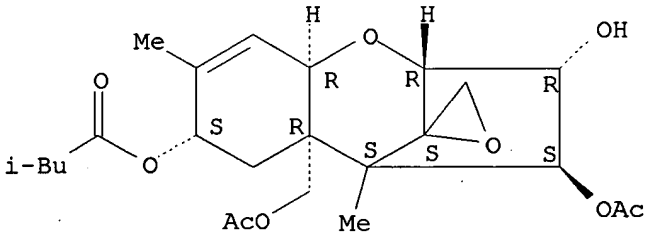
AB A new method for the screening of **monoclonal antibodies** to mycotoxins was developed using a double **antibody** solid phase in a direct enzyme **immunoassay**. Wells of microtiter plates were coated with affinity-purified anti-mouse IgG antiserum. The **monoclonal antibody** against the trichothecene T-2 toxin bound to this solid phase was detected by reaction with an HT-2 toxin-peroxidase conjugate. The **monoclonal antibody** belongs to the IgG1 subclass and has a detection limit for T-2 toxin of 50 ng/mL in a competitive direct enzyme **immunoassay**. The relative cross-reactivity with acetyl T-2, HT-2, iso T-2, T-2 triol and T-2 tetraol-tetraacetate was 0.75, 0.35, 0.35, 0.22 and 0.01, resp. No cross-reactions with other trichothecenes could be found.

IT **21259-20-1**, Toxin T-2 **21259-21-2 26934-87-2**, Toxin HT-2 **114753-65-0**
RL: ANT (Analyte); ANST (Analytical study)

(detn. of, toxin T-2 **monoclonal antibody** for,
direct enzyme **immunoassay** for screening of)

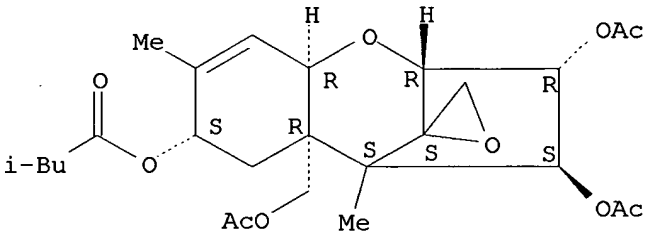
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate
8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



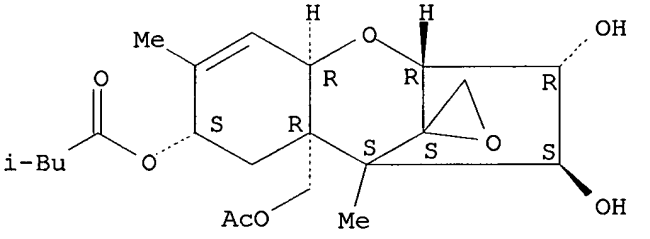
RN 21259-21-2 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 3,4,15-triacetate
8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



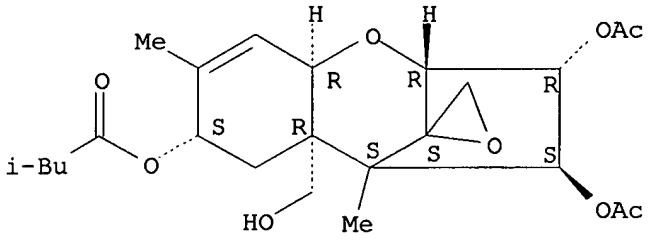
RN 26934-87-2 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 15-acetate
8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



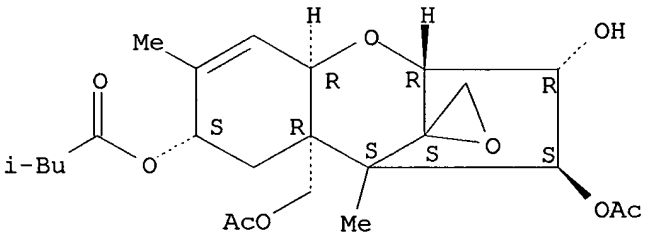
RN 114753-65-0 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 3,4-diacetate
8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 38 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1988:401923 HCAPLUS
DOCUMENT NUMBER: 109:1923
TITLE: Application of an enzyme-linked **immunosorbent** assay for screening of T-2 toxin-producing Fusarium spp
AUTHOR(S): Nagayama, Satoshi; Kawamura, Osamu; Otani, Katsumi; Ryu, Jae Chun; Latus, Dorota; Sudheim, Leif; Ueno, Yoshio
CORPORATE SOURCE: Fac. Pharm. Sci., Sci. Univ. Tokyo, Tokyo, 162, Japan
SOURCE: Applied and Environmental Microbiology (1988), 54(5), 1302-3
CODEN: AEMIDF; ISSN: 0099-2240
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Culture filtrates of Fusarium species were subjected without clean-up procedure to an indirect competitive ELISA with anti-T 2 toxin **monoclonal antibody**. F. sporotrichioides, F. poae, F. tricinctum, And F. culmorum strains were pos. for T 2 toxin, with a min. decrease limit of 5 pg/assay (100 pg/mL of culture filtrate), and the assay data correlated well with the gas-liq. chromatog. data.
IT **21259-20-1**, T 2 Toxin
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in Fusarium by ELISA)
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 39 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1988:203358 HCAPLUS
DOCUMENT NUMBER: 108:203358
TITLE: Enzyme-linked **immunosorbent** assay employing **monoclonal antibody** specific for

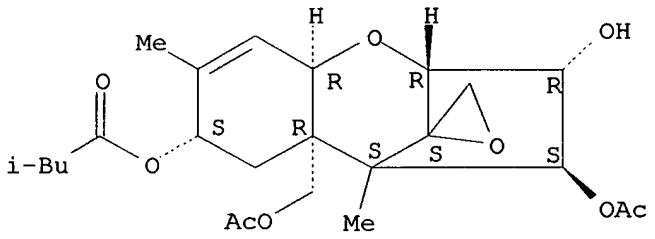
deoxynivalenol (vomitoxin) and several analogs
AUTHOR(S): Casale, William L.; Pestka, James J.; Hart, L. Patrick
CORPORATE SOURCE: Pestic. Res. Cent., Michigan State Univ., East Lansing, MI, 48824, USA
SOURCE: Journal of Agricultural and Food Chemistry (1988), 36(3), 663-8
CODEN: JAFCAU; ISSN: 0021-8561
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A **monoclonal antibody** was prepd. against deoxynivalenol (DON, vomitoxin), a trichothecene mycotoxin occurring in grain contaminated with Gibberella zeae (anamorph - Fusarium graminearum), and incorporated into competitive direct and indirect enzyme-linked **immunosorbent** assays (ELISAs). DON **antibodies** were secreted by hybridomas derived from mice inoculated with DON conjugated to **bovine serum** albumin. Conjugation of DON to carrier proteins was facilitated by conversion of DON to 3-O-hemisuccinyl-DON after protection of 2 of the 3 available hydroxyls with a cyclic boronate ester. DON was detectable at 10-250 ng/assay (0.2-5.0 .mu.g/mL) for direct ELISA and 10-150 ng/assay (0.2-2.0 .mu.g/mL) for indirect ELISA. The **monoclonal antibody** cross-reacts with 3-acetyl-DON, 3-O-hemisuccinyl-DON, DON, 12-13-deepoxy-DON, nivalenol, and fusarenone X (in order of decreasing affinity) but has low affinity for 15-acetyl-DON and T-5 toxin.

IT **21259-20-1**, T-2 Toxin **23255-69-8**, Fusarenone X **50722-38-8**, 3-Acetyldeoxynivalenol **88337-96-6**, 15-Acetyldeoxynivalenol **113507-96-3**
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, by ELISA)

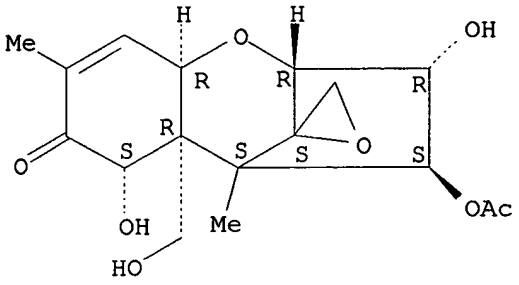
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



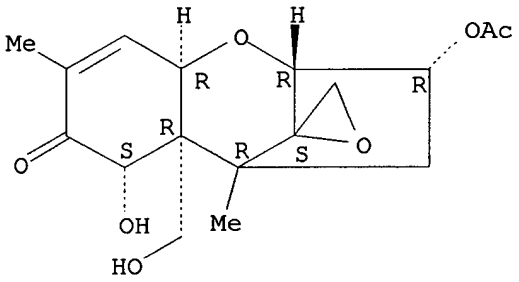
RN 23255-69-8 HCAPLUS
CN Trichothec-9-en-8-one, 4-(acetyloxy)-12,13-epoxy-3,7,15-trihydroxy-, (3.alpha.,4.beta.,7.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



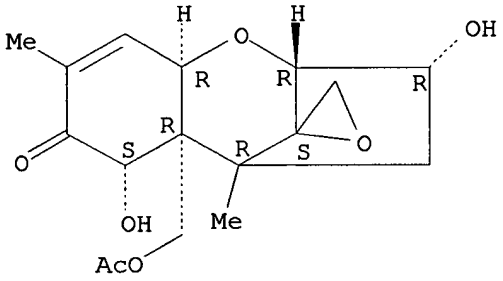
RN 50722-38-8 HCAPLUS
CN Trichothec-9-en-8-one, 3-(acetyloxy)-12,13-epoxy-7,15-dihydroxy-, (3.alpha.,7.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



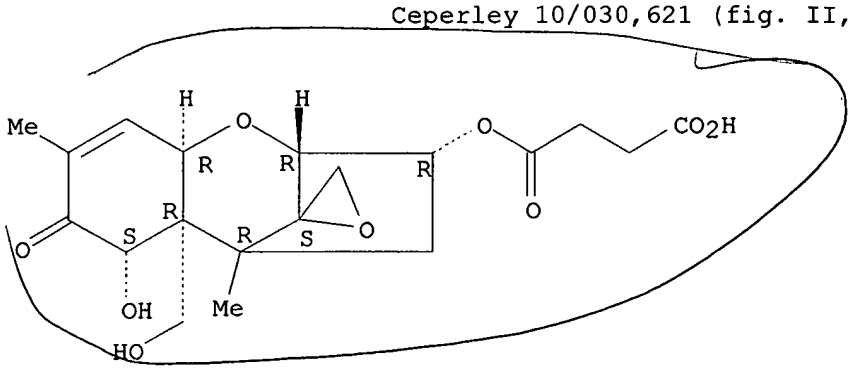
RN 88337-96-6 HCAPLUS
CN Trichothec-9-en-8-one, 15-(acetyloxy)-12,13-epoxy-3,7-dihydroxy-, (3.alpha.,7.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 113507-96-3 HCAPLUS
CN Trichothec-9-en-8-one, 3-(3-carboxy-1-oxopropoxy)-12,13-epoxy-7,15-dihydroxy-, (3.alpha.,7.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



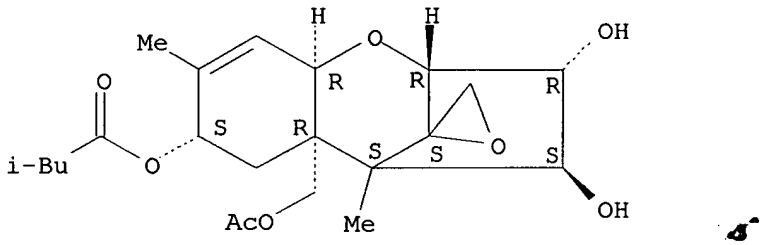
L41 ANSWER 40 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1988:89067 HCAPLUS
DOCUMENT NUMBER: 108:89067
TITLE: A **monoclonal antibody** to T-2 toxin
AUTHOR(S): Goodbrand, I. A.; Stimson, W. H.; Smith, J. E.
CORPORATE SOURCE: Dep. Biosci. Biotechnol., Univ. Strathclyde, Glasgow, F4 ONR, UK
SOURCE: Letters in Applied Microbiology (1987), 5(5), 97-9
CODEN: LAMIE7; ISSN: 0266-8254
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A specific, high-affinity **monoclonal antibody** to T-2 toxin was prepd. The **antibody** was conjugated to **horseradish** peroxidase and employed to develop a direct competitive ELISA for the toxin. The sensitivity of the ELISA was 10 ng/mL with a working range up to 500 ng/mL. The **antibody** cross-reacted with HT-2 toxin (25%), but did not bind to any other trichothecene tested.

IT **26934-87-2**, Toxin HT 2
RL: BIOL (Biological study)
(**monoclonal antibodies** against toxin T-2 crossreaction with)

RN 26934-87-2 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 15-acetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

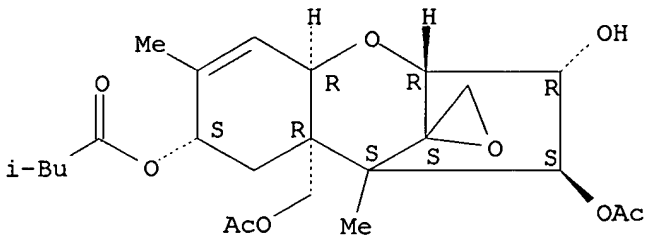
Absolute stereochemistry.



IT **21259-20-1**, Toxin T 2
RL: BIOL (Biological study)
(**monoclonal antibodies** against, ELISA of)

RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



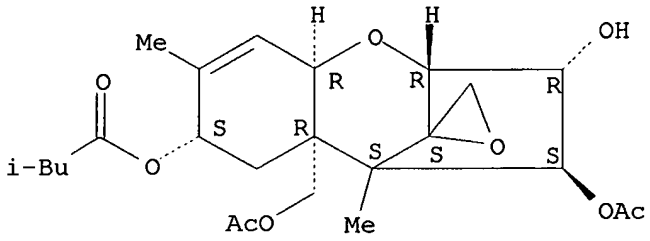
L41 ANSWER 41 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1988:70397 HCAPLUS
DOCUMENT NUMBER: 108:70397
TITLE: Preparation and characterization of the deepoxy trichothecenes: deepoxy HT-2, deepoxy T-2 triol, deepoxy T-2 tetraol, deepoxy 15-monoacetoxyscirpenol, and deepoxy scirpentriol
AUTHOR(S): Swanson, S. P.; Rood, H. D., Jr.; Behrens, J. C.; Sanders, P. E.
CORPORATE SOURCE: Dep. Vet. Biosci., Univ. Illinois, Urbana, IL, 61801, USA
SOURCE: Applied and Environmental Microbiology (1987), 53(12), 2821-6
CODEN: AEMIDF; ISSN: 0099-2240
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The prodn. of deepoxys metabolites of the trichothecene mycotoxins T 2 toxin (I), and diacetoxyscirpenol, including deepoxy HT 2 (DE HT-2), deepoxy T 2 triol, deepoxy T 2 tetraol, deepoxy 15-monoacetoxyscirpenol, and deepoxy scirpentriol is described. The metabolites were prepd. by in vitro fermn. with bovine rumen microorganisms under anaerobic conditions and purified by normal and reversed-phase high-pressure liq. chromatog. Capillary gas chromatog. retention times and mass spectra for the derivatized metabolites were obtained. The deepoxy metabolites were less toxic to brine shrimp than were the corresponding epoxy analogs. Polyclonal and **monoclonal** T 2 **antibodies** were examd. for cross-reactivity to several T 2 metabolites. Both HT 2 and DE HT 2 cross-reacted with mouse **immunoglobulin monoclonal antibody** 15H6 to a greater extent than did I. Rabbit polyclonal T 2 **antibodies** displayed greater specificity to I compared with the **monoclonal antibody**, with relative cross-reactivities of only 17.4, 14.6, and 9.2% for HT 2, DE HT 2, and deepoxy T 2 triol, resp. Cross-reactivity of both **antibodies** was weak for T 2 triol, T 2 tetraol, 3'OH-T 2, and 3'OH-HT 2.

IT **21259-20-1 21259-20-1D**, T 2 Toxin, metabolites
26934-87-2
RL: PRP (Properties)
(characterization of)

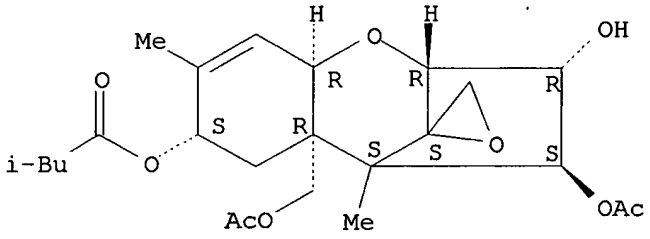
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



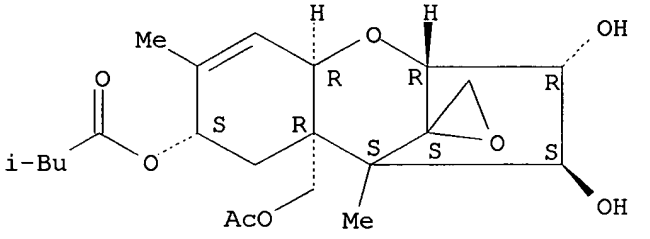
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 26934-87-2 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 15-acetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 42 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1988:36393 HCAPLUS
DOCUMENT NUMBER: 108:36393
TITLE: Detection of T-2 toxin with an enzyme-linked **immunosorbent** assay. Application to wheat samples and T-2 toxin-producing fungi
AUTHOR(S): Nagayama, Satoshi; Sato, Sukemi; Kawamura, Osamu; Ohtani, Katsumi; Ueno, Yoshio
CORPORATE SOURCE: Fac. Pharm. Sci., Sci. Univ. Tokyo, Tokyo, 162, Japan
SOURCE: Mycotoxins (1987), 25, 40-2
CODEN: MAIKD3; ISSN: 0285-1466
DOCUMENT TYPE: Journal
LANGUAGE: Japanese

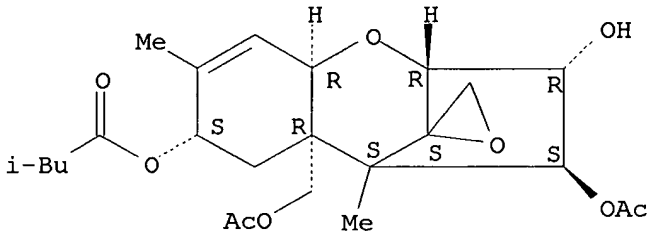
AB A simple and high sensitive ELISA method using **monoclonal antibody** for quantitation of T-2 toxin (T-2) was developed and applied to anal. of wheat samples and screening of T-2-producing fungi. This ELISA did not require extensive cleanup steps before anal. and many samples could be analyzed at one time. The data were confirmed with gas chromatog. The detection limit for T-2 was 0.1 ppb by ELISA, which was 100-fold more sensitive than gas chromatog.-mass spectrometry.

IT **21259-20-1**, T-2 Toxin
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, in wheat and fungal cultures, by ELISA)

RN 21259-20-1 HCAPLUS

CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 43 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN

ACCESSION NUMBER: 1987:630612 HCAPLUS

DOCUMENT NUMBER: 107:230612

TITLE: ELISA of mycotoxins with **monoclonal antibodies**

AUTHOR(S): Ueno, Yoshio; Ohtani, Katsumi; Kawamura, Osamu; Nagayama, Satoshi

CORPORATE SOURCE: Fac. Pharm. Sci., Sci. Univ. Tokyo, Tokyo, 162, Japan

SOURCE: Tanpakushitsu Kakusan Koso, Bessatsu (1987), (31), 80-9
CODEN: TKKBBT; ISSN: 0371-8565

DOCUMENT TYPE: Journal; General Review

LANGUAGE: Japanese

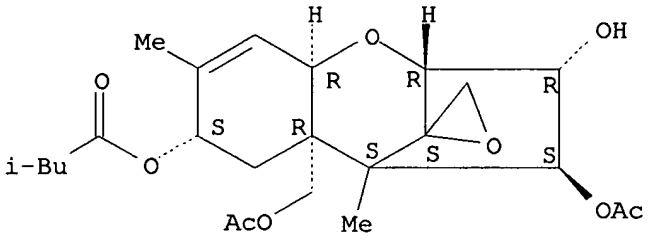
AB A review, with 45 refs., on ELISA with **monoclonal antibody** of mycotoxins including aflatoxins, T-2 toxin, and zearalenone.

IT **21259-20-1**, Toxin T 2
RL: PROC (Process)
(ELISA of, with **monoclonal antibodies**)

RN 21259-20-1 HCAPLUS

CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 44 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1987:629142 HCAPLUS
DOCUMENT NUMBER: 107:229142
TITLE: Stimulation of defenses of biological systems using toxic substances
INVENTOR(S): Berdal, Pascal
PATENT ASSIGNEE(S): Fr.
SOURCE: Fr. Demande, 25 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2584294	A1	19870109	FR 1985-10403	19850708
FR 2584294	B1	19920221		

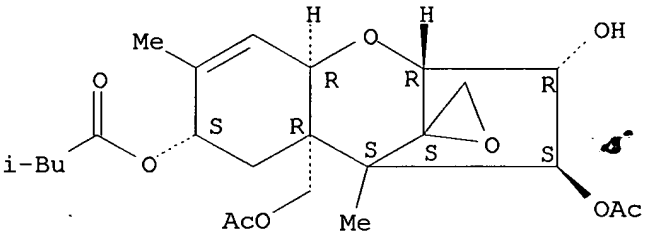
PRIORITY APPLN. INFO.: FR 1985-10403 19850708

AB The defenses of biol. systems are augmented by administration of at least two substances chosen among: **immunodepressants**, **immunotoxins**, cytotoxins, cytostatics, and/or **immunomodulators** (no data). A synergistic effect occurs as these toxic substances stimulate the biol. system.

IT **21259-20-1**, T2 Toxin
RL: BIOL (Biological study)
(stimulation of defenses of biol. systems using)

RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 45 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1987:491348 HCAPLUS

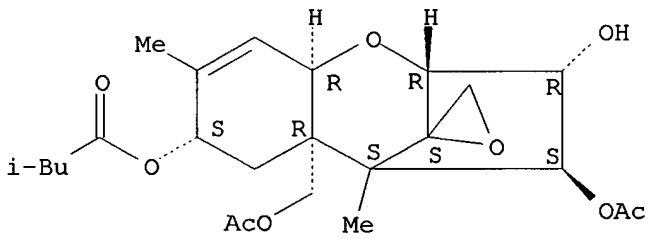
DOCUMENT NUMBER: 107:91348
TITLE: A homogeneous **immunoassay** for the mycotoxin T-2 utilizing liposomes, **monoclonal antibodies**, and complement
AUTHOR(S): Ligler, Frances S.; Bredehorst, Reinhard; Talebian, Abdolhossen; Shriver, Lisa C.; Hammer, Charles F.; Sheridan, James P.; Vogel, Carl Wilhelm; Gaber, Bruce P.
CORPORATE SOURCE: Bio/Mol. Eng. Branch, Nav. Res. Lab., Washington, DC, 20375-5000, USA
SOURCE: Analytical Biochemistry (1987), 163(2), 369-75
CODEN: ANBCA2; ISSN: 0003-2697
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A homogeneous competition inhibition assay for T-2 mycotoxin (I) was developed based on complement-mediated lysis of liposomes. I was converted to an acid chloride deriv., subsequently coupled to the amino group of phosphatidylethanolamine, and incorporated with the phospholipid into unilamellar liposomes. Carboxyfluorescein, which is self-quenched at high concns., was entrapped in the liposomes as a release marker. A **monoclonal** IgG1 **antibody** specific for I and a polyclonal anti-mouse **Ig** as a secondary **antibody** were used since the anti-I IgG1 does not activate complement, releasing carboxyfluorescein into the surrounding buffer. In the presence of free I, the binding of **antibodies** to the liposomes was reduced, causing a corresponding decrease in lysis. This assay proved to be sensitive to I levels as low as 2 ng, which is 10-fold more sensitive than the present enzyme **immunoassay** using the same **antibodies**.

IT **21259-20-1**, Toxin T 2
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, by an **immunoassay**-lysosome lysis technique, complement in relation to)

RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

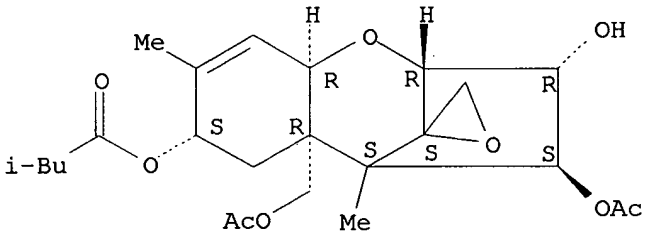
Absolute stereochemistry.



L41 ANSWER 46 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1987:418929 HCAPLUS
DOCUMENT NUMBER: 107:18929
TITLE: Tresyl activation of a hydroxyalkyl ligand for coupling to a hydrazide gel: stable immobilization of T-2 toxin for affinity purification of T-2 **antibody**
AUTHOR(S): Allam, Kariman I.; Ehrat, Markus; Cecchini, Douglas;

Warden, Beverly A.; Giese, Roger W.
CORPORATE SOURCE: Coll. Pharm., Northeast. Univ., Boston, MA, 02115, USA
SOURCE: Analytical Biochemistry (1987), 162(1), 171-7
CODEN: ANBCA2; ISSN: 0003-2697
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A stable T-2 hydrazide gel is prepd. by activating T-2 toxin (I) with tresyl chloride followed by coupling to agarose-adipic acid hydrazide. Utilized as an affinity chromatog. column, this T-2 hydrazide gel purifies a **monoclonal antibody** for T-2 in high yield directly from ascites fluid. Specific **antibody** trapped on the column is eluted either with excess T-2 or at pH 11.6. Much less successful are 2 other T-2 affinity columns that were prepd. and evaluated: T-2 **bovine serum** albumin Affi-Gel 15 and T-2 hexylamine Sepharose.
IT **21259-20-1**, T-2 Toxin
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with tresyl chloride, **monoclonal antibody** purifn. in relation to)
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



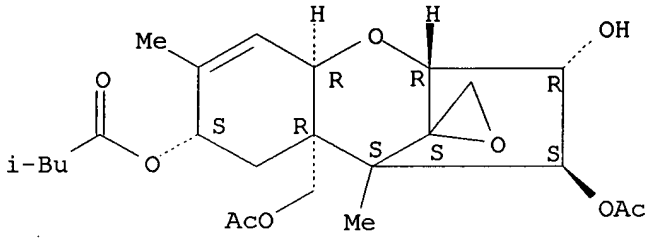
L41 ANSWER 47 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1987:170670 HCAPLUS
DOCUMENT NUMBER: 106:170670
TITLE: Production of a **monoclonal antibody** to T-2 toxin with strong cross-reactivity to T-2 metabolites
AUTHOR(S): Gendloff, E. H.; Pestka, J. J.; Dixon, D. E.; Hart, L. P.
CORPORATE SOURCE: Dep. Bot. Plant Pathol., Michigan State Univ., East Lansing, MI, 48824, USA
SOURCE: Phytopathology (1987), 77(1), 57-9
CODEN: PHYTAJ; ISSN: 0031-949X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A **monoclonal antibody** against T2 toxin (I) [**21259-20-1**] was produced using a mouse immunized by s.c. injections into the shoulder with large **immunogen** doses. When this **antibody** was used in an indirect competitive enzyme **immunoassay**, sensitivity to I was 10 ng/mL (0.5 ng/assay). The **antibody** cross-reacted less to HT2 toxin [**26934-87-2**] than T-2 **antibodies** previously described. Strong cross-reaction

with the T-2 metabolites 3'-hydroxy T2 toxin [84474-35-1] and 3'-hydroxy HT 2 toxin [84474-35-1] was noted.

IT **21259-20-1D**, T 2 Toxin, metabolites **21259-21-2** **26934-87-2**, HT2 toxin
RL: BIOL (Biological study)
(T 2 toxin **monoclonal antibodies** cross-reaction with)

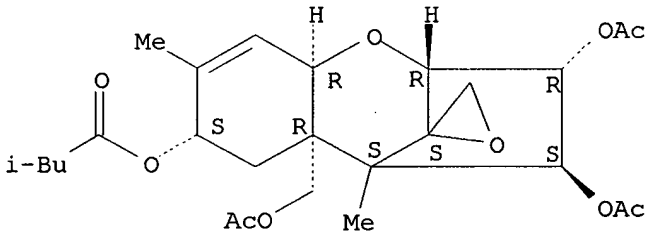
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



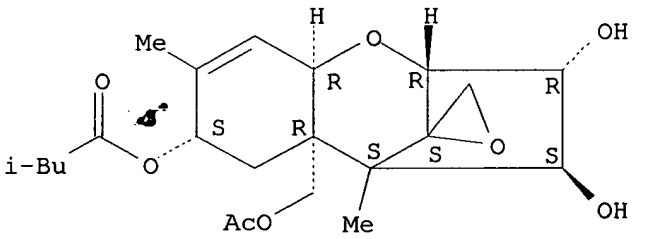
RN 21259-21-2 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 3,4,15-triacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 26934-87-2 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 15-acetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

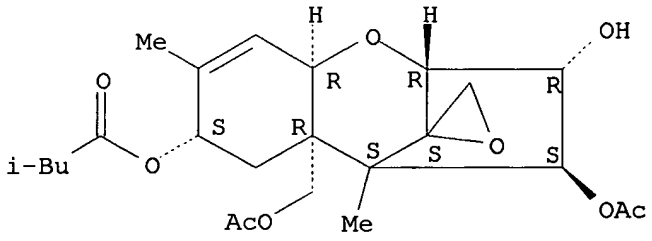
Absolute stereochemistry.



IT **21259-20-1**, T2 Toxin
RL: BIOL (Biological study)

(**monoclonal antibodies** to, metabolite cross-reactivity in relation to)
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

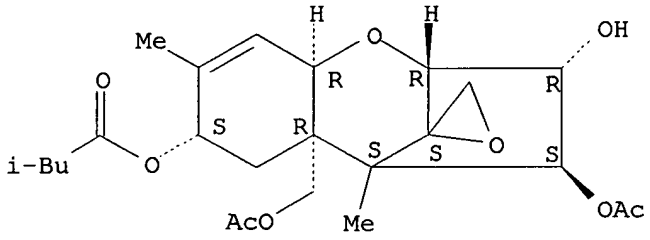


L41 ANSWER 48 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1987:118016 HCAPLUS
DOCUMENT NUMBER: 106:118016
TITLE: **Monoclonal antibody** to T-2 toxin and its use in the determination of T-2 toxin
INVENTOR(S): Ueno, Yoshio
PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 61229899	A2	19861014	JP 1985-69170	19850403
JP 05043358	B4	19930701		

PRIORITY APPLN. INFO.: JP 1985-69170 19850403
AB Anti-T-2 toxin **monoclonal antibody** manuf. involves: immunization of mice with T-2 toxin, isolation of lymphocytes from the mice, and fusion of the lymphocytes with cells to form hybridomas for the prodn. of the **monoclonal antibody**. The **monoclonal antibody** is useful in the **immunoassay** of T-2 toxin (no specific assay example is given).
IT **21259-20-1**
RL: PROC (Process)
(**monoclonal antibodies** to and **immunoassay** of)
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

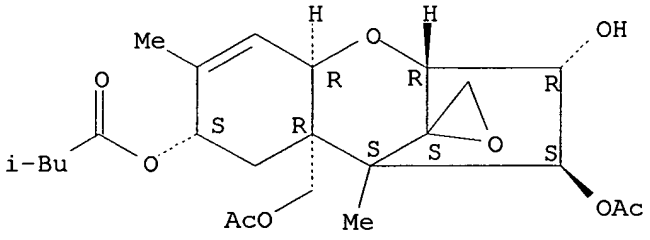


L41 ANSWER 49 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1986:604218 HCAPLUS
DOCUMENT NUMBER: 105:204218
TITLE: Development of enzyme-linked **immunosorbent** assay (ELISA) for T 2 toxin using **monoclonal antibodies**
AUTHOR(S): Ohtani, Katsuki; Kawamura, Osamu; Kajii, Hiroshi; Chiba, Jo; Ueno, Yoshio
CORPORATE SOURCE: Fac. Pharm. Sci., Sci. Univ. Tokyo, Tokyo, 162, Japan
SOURCE: Mycotoxins (1985), 22, 31-2
CODEN: MAIKD3; ISSN: 0285-1466
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Two **monoclonal antibodies** (7D4, 6E9) reactive with toxin T 2 (I) [**21259-20-1**] were prepd. The **antibody** 7D4 was also reactive with I hemisuccinate and acetyl I [**21259-21-2**], but less reactive with toxin HT 2 [**26934-87-2**], 3'-OH-I [84474-35-1], and 3'-OH-toxin HT 2 [103654-63-3]. By using the **antibody** 7D4 in the indirect competitive ELISA method, the least detectable limit for I was .apprx.25 pg/assay.

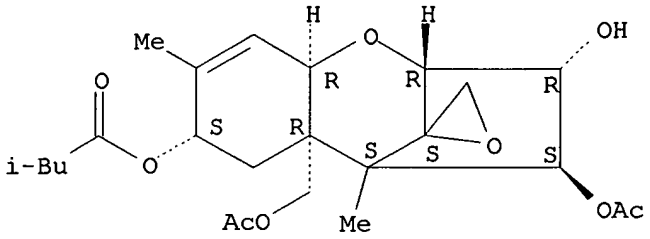
IT **21259-20-1 21259-20-1D**, hemisuccinate deriv.
21259-21-2 26934-87-2
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, by ELISA, **monoclonal antibodies** in)
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



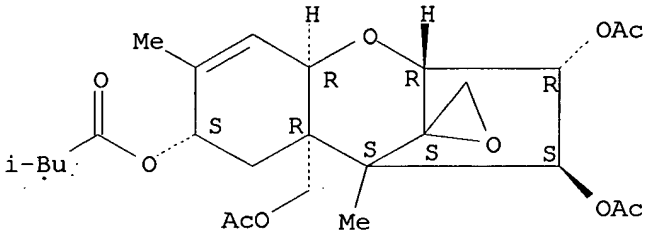
RN 21259-20-1 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



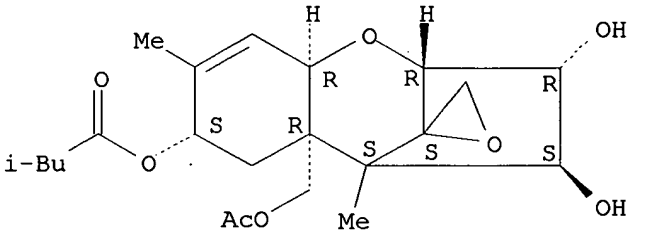
RN 21259-21-2 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 3,4,15-triacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 26934-87-2 HCAPLUS
CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 15-acetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L41 ANSWER 50 OF 50 HCAPLUS COPYRIGHT 2003 ACS on STN
ACCESSION NUMBER: 1985:76957 HCAPLUS
DOCUMENT NUMBER: 102:76957
TITLE: Preparation and characterization of **monoclonal antibodies** to the trichothecene mycotoxin T-2
AUTHOR(S): Hunter, Kenneth W., Jr.; Brimfield, Alan A.; Miller, Maryalice; Finkelman, Fred D.; Chu, Sun Fun
CORPORATE SOURCE: F. Edward Hebert Sch. Med., Uniformed Serv. Univ. Health Sci., Bethesda, MD, 20814-4799, USA
SOURCE: Applied and Environmental Microbiology (1985), 49(1), 168-72
CODEN: AEMIDF; ISSN: 0099-2240
DOCUMENT TYPE: Journal

LANGUAGE: English

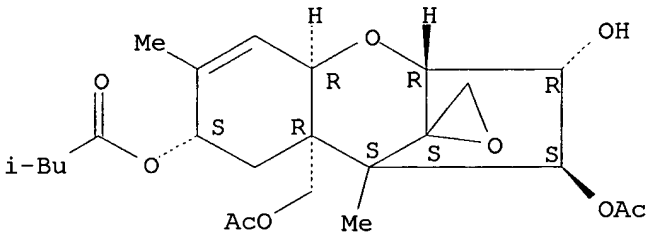
AB Two mouse IgG1 **monoclonal antibodies** that bind to the trichothecene mycotoxin T-2 were prepd. These **antibodies,** designated 12C12 and 15H6, had affinities for T-2 of 3.5 .times. 106 and 5.8 .times. 107 L/mol, resp. A competitive inhibition enzyme **immunoassay** that employed these **antibodies** had a sensitivity for T-2 of 50 ng/assay. Both **antibodies** bound to the metabolite HT-2 but not to the related trichothecenes monoacetoxyscirpenol, diacetoxyscirpenol, deoxynivalenol, and deoxyverrucarol. Evidence is presented that T-2 protein conjugates inhibit protein synthesis in lymphoid cells and that this apparent **immunotoxicity** may be due to the release of T-2 from the protein carrier.

IT **21259-20-1 21259-20-1D,** albumin conjugates
RL: BIOL (Biological study)
(**monoclonal antibodies** to and protein formation inhibition by)

RN 21259-20-1 HCAPLUS

CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

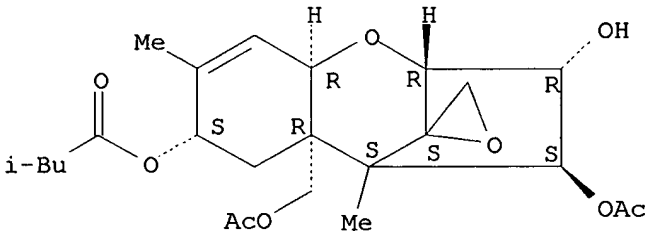
Absolute stereochemistry.



RN 21259-20-1 HCAPLUS

CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **26934-87-2**
RL: BIOL (Biological study)
(mycotoxin T2-specific **monoclonal antibodies** cross-reactivity with, protein formation inhibition in relation to)

RN 26934-87-2 HCAPLUS

CN Trichothec-9-ene-3,4,8,15-tetrol, 12,13-epoxy-, 15-acetate 8-(3-methylbutanoate), (3.alpha.,4.beta.,8.alpha.)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.